LEARN TO STUDY READERS

BOOK THREE-GRADE FOUR

Alice Jean Ingersoll

THE LEARN TO STUDY READERS

BOOK THREE–GRADE FOUR

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PREFACE

It is the purpose of this reader to teach pupils how to study. As one of the three R's, reading has always been regarded as the fundamental tool subject, and yet the abilities involved in the use of reading as an instrument have not always been clearly defined. There are four important classes of abilities needed in such study as is done with books.

1. There are those abilities needed in locating information. This involves skill in the use of the dictionary, in the use of the index, in the use of the table of contents, in the use of libraries and general reference books, and in skimming to locate information.

2. There are those abilities involved in the accurate comprehension of what is read, in selecting items for one's purpose, and in appraising the value of these items.

3. There are those abilities involved in organizing the data so understood and selected, according to the purposes for which one is reading at the time.

4. There are those abilities needed in providing for remembering what has been read.

Book One, with its manual, includes exercises for the development of all these abilities, but emphasizes the second group especially. Book Two, while continuing to give the chief emphasis to the development of accurate comprehension, begins to put considerable stress upon the development of each of the other classes of abilities.

Book Three, while not lessening the emphasis upon accurate thought getting, introduces somewhat more difficult exercises in locating information, in organizing what is

read, and in developing the ability to remember what has been read. Particular stress is given in this book to the various abilities involved in evaluating what is read, and in selecting and organizing data according to the purpose for which the material is read.

Since the purpose of this book is to teach pupils how to study, the selections included in it should exemplify the hard-work type of reading. This means that they should be informational in character. Such subject matter stimulates accurate thinking. It is easy to test the success with which such selections have been read.

The authors wish to make it plain that these readers are not meant to crowd out literary readers. Training in the appreciation of good literature should be provided in any well-rounded reading program. It is futile to compare the value of learning to study with the value of learning to appreciate good literature. Both values must be provided for in every grade in the elementary school. This reader presupposes that literary readers will supplement it, but it is to be distinguished from them in its purposes, methods, and measures of accomplishment.

Above all, it is not meant for an *oral* reader. It must be studied — silently. Such reading is to be contrasted not merely with oral reading; it is to be sharply contrasted with the silent, leisurely reading of literary selections. Its watchword is "Work" rather than "Recreation." Its emphasis is not so much on appreciation as on comprehension, on soundness of judgment, and on skill in remembering.

And yet its motivation is none the less firmly rooted. It arises from the desire of the child, first, to enlarge his experience with interesting things, and, second, to obtain a skillful control of the tools which will enable him to use the storehouses of information. These tools are the skills involved in silent reading of the study type.

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THE LEARN TO STUDY READERS

BOOK THREE. GRADE FOUR

PERSONAL HISTORY

What is your name and address?

In what country were you born?

What is the date of your birth?

How many members are there in your family?

What is your father's occupation?

Do you attend a public school?

Where is your school located?

How many grades are there in your school?

How many years have you been in school?

What grade have you reached in school?

What subjects besides reading do you study at school?

What is your favorite study?

HEALTH QUESTIONS

Here are a number of questions about health. Read each question silently. Decide how you should answer it. Be able to give a good reason for your answer.

1. If you have to cough or sneeze, should you hold a handkerchief in front of your mouth and nose?

2. Should you ever spit on the floor or on the sidewalk?

3. Should you keep your mouth open while you blow your nose?

4. Should you wear rubbers in the house?

5. Should you always wash your hands before eating?

6. Should you eat many kinds of vegetables?

7. Should you drink milk every day?

8. Should you eat whole-wheat bread?

9. Should you use a towel which others have used?

10. Should children go to school without eating breakfast?

11. Should children drink either tea or coffee?

12. Should you read with the sun shining on your book?

13. Should you go to school when you have a sore throat or when you have a severe cold?

14. Should you brush your teeth every day?

15. Should you eat a great deal of fruit?

16. Should you eat candy between meals?

17. Should you sleep at least eleven hours every night if you are a child under twelve years of age?

18. Should you sleep in clothing which you wear during the day?

19. Should you play out of doors awhile every day?

20. Should you breathe through your nose?

21. Should you put a pencil in your mouth?

22. Should you drink from a public drinking cup?

23. Should you go to school with a fever?

24. Should you sleep with the windows open?

25. Should you take a bath at least once a week?

26. Should you chew your food well?

27. When you come in from play, should you sit in a draft to cool off?

28. Should you eat candy or other food that is found on the street?

A BRAVE PIONEER

In a little log cabin near a forest there lived a man named Daniel Boone. He liked to hunt. He did not like to live where there were many people. He liked to explore the deep forests and the rough new country. A friend of his, who had crossed the mountains, told him about the fine hunting grounds on the other side of the mountains.

Although this country beyond the mountains was a rich country, it was often called "the dark and bloody ground" because the Indians from the north and the south met there in terrible battles.

But Daniel Boone was not afraid of the Indians because he had always spent most of his time in the forests and he had learned to know the Indians. He had even hunted with them. He had learned their clever tricks and he understood their strange ways. So he was not afraid to go into this new country.

One spring he set out with five other brave hunters. The men had to travel on horseback or on foot. There was not even a wagon road across the mountains. Each man carried a hunting knife, a rifle, a tomahawk, and a powder horn filled with gunpowder.

At last they came to that beautiful country which is now called Kentucky. Here they built a cabin. They went out hunting every day. They kept close watch for Indians, but the Indians were too clever for them.

As Boone and a companion were out hunting one day, a party of fifteen Indians surrounded and captured them. Boone knew that it was useless to try

to escape. He knew that if he and his companion made any trouble, the Indians would kill them.

The Indians started back to their camp with the white men. Boone and his friend did not try to get away. The two men pretended that they were glad to go with the Indians. They went along together for several days.

After a while the Indians did not watch their prisoners so closely. One night Boone saw that they were not watched at all. All the Indians were sleeping. He roused his companion. They got up very quietly, took their rifles, and stole away. Before morning they were far away from the Indian camp. How do you suppose the Indians felt when they awoke and found their prisoners gone?

DO YOU REMEMBER WHAT YOU READ?

Everyone who reads tries to remember some interesting things to tell to other people.

How much of the story which you have just read could you tell? If you can answer the following questions, you have remembered most of the story.

What was the name of the story?

Who was the brave pioneer?

Why was Daniel Boone so well acquainted with the ways of the Indians?

How did he find out about the new country on the other side of the mountains?

Why was this new country called "the dark and bloody ground"?

How did Boone and his companion escape from the Indians?

MORE OR LESS

Fill in the blanks in the sentences below. Use the word *more* or the word *less*. Which of the sentences need the word *less*? Which sentences need the word *more*?

1. A year is _____ than a month.
2. A week is _____ than a month.
3. A mile is _____ than three city blocks.
4. A dime is _____ than a quarter.
5. A quart of milk is _____ than a gallon of milk.
6. The trees give _____ shade in the summer than they give in the winter.
7. An inch is _____ than a foot.
8. A minute is _____ than an hour.
9. A yard is _____ than a foot.
10. A dime is _____ than a dollar.
11. A penny is _____ than a nickel.

SHOULD YOU LIKE TO KNOW THE ANSWERS TO THESE QUESTIONS?

The next lesson tells about soap-making in pioneer days.

What things should you want to know if you were trying to find out about soap-making in pioneer days?

You would probably want to know these four things:

Why didn't the pioneers buy soap?

What did the pioneers make their soap from?

Where did the pioneers get the materials which they used in making soap?

How did the pioneers make their soap?

Read the next lesson to find out whether or not these four questions are answered.

SOAP-MAKING IN PIONEER DAYS

If your hands are very dirty, you need to wash them with soap. To-day you can buy soap very easily. A store will sell you a bar for five or ten cents.

When our great-grandfathers and great-grandmothers were children, it was not so easy to get soap. The few stores were

often hard to reach. Most of the stores had no soap to sell. Besides, the soap which the stores sold was expensive, and the people had very little money.

How do you suppose these pioneers got their soap if they did not buy it? They made it.

First they had to make lye. They bored a hole in the bottom of a large barrel, near its edge. The barrel was then placed on a bench. In the bottom of the barrel they placed a layer of clean, fresh straw. On top of this straw they heaped wood ashes until the barrel was full.

For many months the pioneers had been saving ashes from the big fireplace in the kitchen. They were very careful to save the ashes from maple, walnut, and hickory logs because those ashes made the strongest lye.

After the ashes had been placed in the barrel, pails of water were poured over them. A clear, brown liquid began to drip through the ashes and straw. This liquid was the lye needed to help make the soap. A bucket, placed under the hole in the barrel, caught the slowly dripping lye.

Now the lye was tested by putting a hen's egg into it. If the egg floated,

the lye was strong enough to use in making the soap. If the egg did not float, the lye was poured back into the barrel and allowed to soak through the ashes again. Once in a while it was necessary to use a fresh lot of ashes.

The people were careful not to put their hands into this lye. It was so strong that it would take the skin off. Mothers watched the children carefully to keep them from touching the lye.

When the lye was ready, it was poured into a big iron kettle. To the lye were added grease, little pieces of old candles, and scraps of fat which the careful housewife had been saving all winter. A fire was then built under the kettle.

When the kettleful of lye and grease and tallow began to boil, the bones, skin, and pieces of candle wicking came

to the top. They were skimmed off. Soon the liquid in the kettle began to grow thicker. It had to be stirred all the time to keep it from boiling over. When the liquid had cooked until it was about as thick as molasses, it was ready to be taken off the fire. It was now soap.

The soap was dipped from the big kettle into pails. It was poured from these pails into a barrel or into a large jar, and left to cool.

When the soap was cold, it looked like thick, brown jelly. It usually did not get hard like the soap we use now. It was called soft soap.

If a woman worked hard, she could make a barrel of soap in a day or in even less time. The housewife was always very glad when the soap barrel was filled for another year.

The year's supply of soap was usually made in the spring. By spring enough grease and ashes had been saved to make a large quantity of soap. Besides, at that time of the year the soap could be made out of doors. In that way the odor of the boiling soap was kept out of the house.

Although making soap was hard work, the pioneer mother was glad to do it. She was glad of the chance to use the grease, the scraps of fat, and the little pieces of candles that she had saved. In this way her soap did not cost any money. Besides, most of the housewives liked the homemade soap better than the soap which was sold at the stores.

The mother used this soft soap in washing the clothes and the dishes. All the family used it in washing their hands and faces. A big bowlful of it was brought from the soap barrel and kept handy in the kitchen.

Perhaps your grandmother and even your mother will remember having helped to make this kind of soap, or having seen it made. You might ask them to tell you about it.

TEST

Did you find out why the pioneers made their own soap? Give three reasons why they did.

From what did the pioneers make their soap? Read sentences which tell the answer.

Where did the pioneers get lye?

Where did the pioneers get the ashes used in making lye?

How could the pioneers tell when the lye was strong enough?

Where did the housewives get the grease used in making soap?

Why did the housewife usually make soap in the spring?

Did you ever see any homemade soap?

Now that you know how soft soap is made, can you understand why some meat-packing houses make soap?

CAN YOU DO THIS?

Here are thirteen sentences which have been divided. The first part of each sentence is in the first column. The last part of each sentence is in the second column. Can you put the parts of each sentence together?

1. Ships sail	1. in the mill.
2. Fish can see	2. on the wall.
3. Airplanes fly	3. in the bank.
4. Eskimos live	4. in the air.
5. Children sleep	5. under water.
6. Coal is found	6. on the sea.
7. Food is cooked	7. in a bed.
8. Corn is ground	8. at school.
9. Cars are repaired	9. in the ground.
10. Money is kept	10. in the North.
11. Trains run	11. in the kitchen.
12. Pictures hang	12. on steel rails.
13. Children study	13. in a garage.

RIGHT AND LEFT

Sometimes we see signs that say "Turn to the right" or "Turn to the left." Could you turn to the right or to the left?

Can you think of times in school when you need to know which is your right and which is your left? How many reasons can you give for knowing which is your right and which is your left?

Sometimes we can tell people where a building is located by saying, "After you have turned the corner, it is the first building on your left."

Can you think of other ways in which we use *right* and *left*? This lesson may help you to learn which is your right and which is your left.

Do you know which hand is your

right hand? Do you know which hand is your left hand?

Hold up your right hand. Hold up your left hand.

Point to the child who sits on your right. Point to the child who sits on your left.

Find the left side of this page. Find the right side of this page.

Are the windows in your room on the left side of you or are they on the right side? If you should face in the opposite direction, would the windows still be on the same side of you?

Hold up the hand which you should use in shaking hands.

Give five reasons why you should know which is your right and which is your left.

Close your book and put it at the left side of your desk.

OUR COINS

How many pieces of money do you see represented in the picture?

Which piece is worth the most? Which piece is worth the least?

Point to the dollar. Point to the half dollar, the quarter, the dime. The dollar, the half dollar, the quarter, and the dime are made of silver.

Point to the nickel. This piece of money is made of a mixture of two metals. One of the metals is nickel. The other is copper. Copper and nickel are not so valuable as silver.

Point to the cent. It is made of copper. We often call this piece of money a penny.

It takes one hundred cents, or pennies, to make a dollar. How many cents would it take to make a half dollar? If you had two half dollars, how many cents should you have? We often call a half dollar fifty cents.

If you bought a game that cost fifty cents and you gave the clerk a dollar, how much money should you receive in change?

It takes twenty-five cents to make a quarter. It takes four quarters to make a dollar. If you had two quarters, how

much money should you have? If you had three quarters, how much money should you have? How many more quarters should you need to make a dollar?

It takes ten cents to make a dime. It takes ten dimes to make a dollar. How many dimes would it take to make a half dollar? Count by tens to fifty.

It takes two nickels to make a dime. How many cents does it take to make a dime? If you had one nickel, how many cents should you need to equal a dime?

If you bought a pencil that cost five cents and you gave the clerk a dime, how many nickels should you receive in change? If you bought an eraser for two cents, how much change should you receive from a nickel?

It takes two dimes and a nickel to make a quarter. How many nickels does

it take to make a quarter? How much are one dime and one nickel? If you bought a doll that cost fifteen cents and you gave the clerk a quarter, how many nickels should you receive in change? How many dimes should you receive in change?

See if you can tell the names of the six pieces of money that you have just been studying about.

These are not the only kinds of money that we use. We also have paper money. Nothing less than a dollar is made in paper money. Have you ever seen any paper money?

We also have money made out of gold. We do not often see gold money.

Perhaps your mother will let you buy something for her at a store. Do you think you could bring back the right change?

Is the weather warm or cold to-day?

How warm is it in this room?

When we tell how warm or how cold a room is, we say we are telling the temperature of the room.

We find out what the temperature is by reading the thermometer.

A thermometer will tell you how cold or how warm it is in the house or out of doors.

Is there a thermometer in your schoolroom?

Can you read the thermometer?

See if you can find zero on the thermometer. See if you can find 100 degrees above zero. See if you can find 30 degrees below zero.

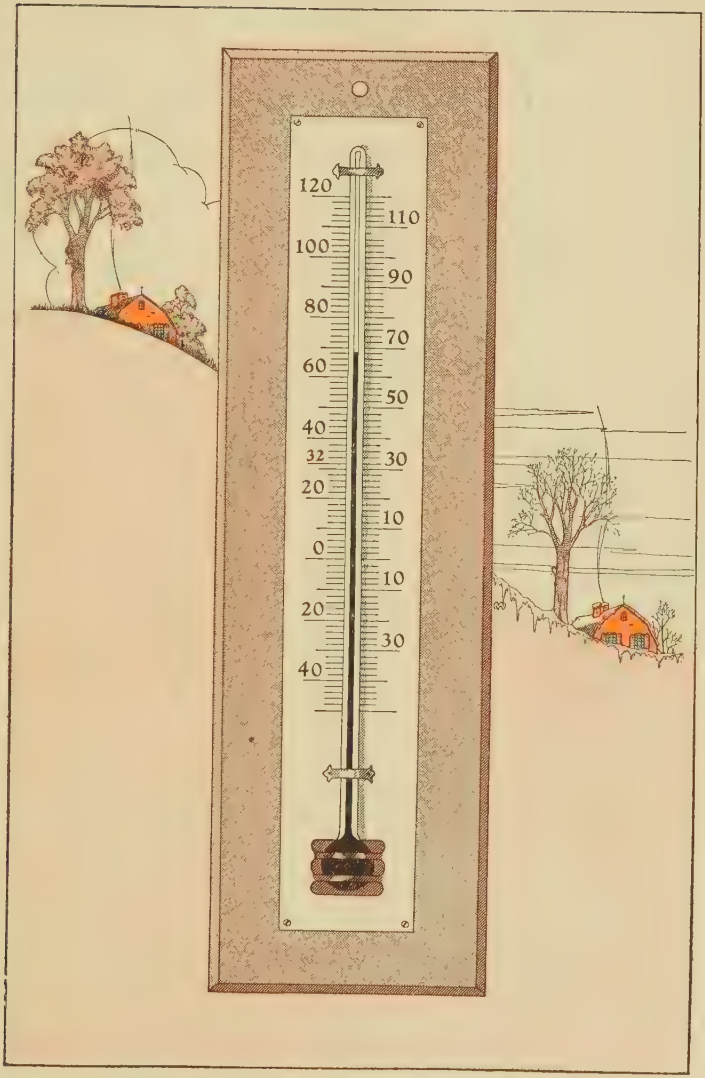
In the little glass tube is some mercury. Heat makes the mercury expand

and go up in the tube. Cold makes the mercury contract and go down in the tube.

On very hot days the mercury goes up high in the tube. Sometimes it goes up to 98 or 100 degrees above zero. It goes even higher in the warmest parts of our country. Can you remember any days when the temperature was more than 100 degrees?

On very cold days the mercury goes down below zero. In some parts of our country it goes down to 30 degrees below zero or even lower. Have you ever known a day when the temperature was lower than 30 degrees below zero?

Each space on the thermometer stands for two degrees. Find 32 degrees above zero. When the thermometer shows 32 degrees above zero, we say the weather


120
110
100
90
80
70
60
50
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32
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10
0
10
20
30
40

is freezing. We mean that the weather is cold enough to freeze water.

Find 68 degrees above zero. If possible, the temperature in your schoolroom should be kept at 68 degrees above zero. If a schoolroom has a temperature of 75 degrees above zero, is it too warm or too cold in the room?

When we write 68 degrees, we write it in this way: 68°. We write 32 degrees in this way: 32°.

Find on the thermometer:

98° above zero

20° below zero

When the thermometer says 10° above zero, is the weather warm or cold?

Guess what the temperature out of doors is to-day. Put the thermometer out of doors for a while. Then look at it to see if you guessed correctly.

FILLING IN BLANKS

When you write a lesson at school do you ever forget to put your name on the paper? Why do you need your name on the paper? Why do you often need the date on the paper?

Sometimes your teacher gives you a test. She may keep your test paper for a long time. She may even send it away to another town. Then she needs more than just your name and the date on the paper. She may want to know how old you are. She may want to know where you live.

Can you think of other things which your teacher may need to know about you? Are there other things which the school may need to know about you?

When you write a test, what do you put at the top of the paper?

Sometimes blanks like this are printed at the top of a test paper:

NAME _____ AGE _____ GRADE _____

CITY _____ STATE _____ DATE _____

SCHOOL _____ TEACHER _____

When you get a paper or a card printed like this, you are to write on the blank lines.

The first thing which is asked for is your name. What should you write in the blank beside the word *NAME*?

The next thing which is asked for is your age. What should you write in the blank beside the word *AGE*?

What should you write in the blank beside the word *GRADE*?

What should you write in the blank beside the word *CITY*?

Tell what you should put in each of the other blanks.

Sometimes the school needs to ask your parents some questions about you. Then the teacher may give you a card like the one on this page.

INFORMATION CARD

CHILD'S NAME _____

DATE OF BIRTH _____

FATHER'S NAME _____

FATHER'S OCCUPATION _____

ADDRESS _____

TELEPHONE NUMBER _____

Can you tell what to put in each of these blanks?

Many mistakes are made because people do not write plainly enough when they are filling in such blanks as these.

Always write your best when you are filling in blanks.

THE TUSSOCK MOTH

Are there many trees in the town where you live? Do you pass any trees on your way to school?

Some day as you are going to school you may see something very queer on the trunks of the trees. You may see a wide band of something sticky, like glue, around the trunks.

Do you know what these bands are for? They are to keep insects from crawling up the trees. There is one kind

of insect that does a great deal of harm to the trees. This insect is a certain kind of caterpillar.

You may have seen this caterpillar many times. It is between one and two inches long. On one end of the caterpillar there are two tufts of stiff black hair. On the other end there is only one tuft. Along the sides of its body are rows of short yellow hairs in tufts which look like tiny paste brushes. The caterpillar has a beautifully colored band which reaches up and down its back.

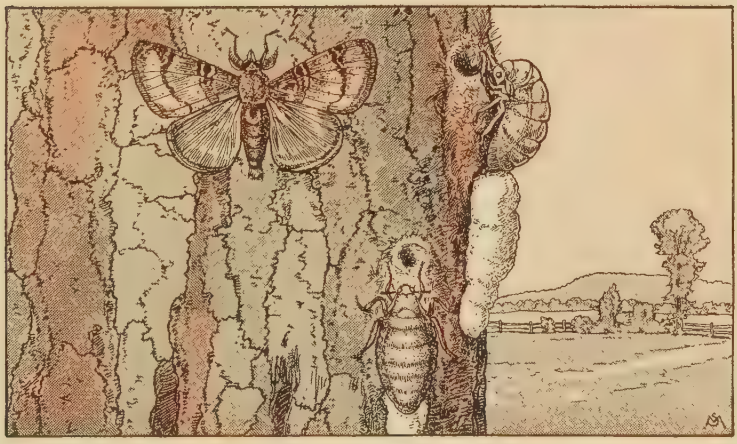
These caterpillars crawl up the trees and eat the leaves. They eat the leaves of many of our shade trees. They eat the leaves of elms, soft maples, poplars, alders, birches, and willows. Sometimes you will find these caterpillars on fruit trees. They eat the leaves also of locust, box-elder, horse-chestnut, and sycamore trees. Have you ever seen them on any of these trees?

Where did all these caterpillars come from? Have you ever noticed a tiny white foamlike mass on the tree trunks in the fall? Sometimes you may see these white masses on the walls of a building or on a fence post. These small masses are made up of tiny eggs. It was from these eggs that the caterpillars were hatched.

The eggs were laid by a female, or mother, moth. Where did the mother

moth come from? She came out of a cocoon which the caterpillar had made.

Each caterpillar spins a gray cocoon of silk threads around itself. As it spins, its hairs become tangled in the cocoon and are pulled out. By the time the cocoon is finished, the caterpillar has lost almost all its hairs. In a few hours after the cocoon is spun, the caterpillar inside has become a very different creature. Later on, in the cocoon, the caterpillar changes into a gray moth.



After a time the moth comes out of the cocoon. It is called the tussock moth. The male moth has wings and can fly. The female has no wings. Many moths are bright-colored, but her color is a dull gray.

As soon as she comes out of her cocoon she lays her eggs. She lays the white, foamy mass on the cobwebby cocoon. Then her work is done, and she dies. The caterpillars hatch out of the eggs in the spring. Isn't that a strange story?

TEST

Find a sentence which tells why the sticky bands are on the trees.

Find a sentence which tells what trees are injured by the tussock caterpillar.

Find the sentences which will help you to know the tussock caterpillar.

Find a sentence which tells what the tussock moth's eggs look like.

Find two sentences which tell where you may find tussock-moth eggs.

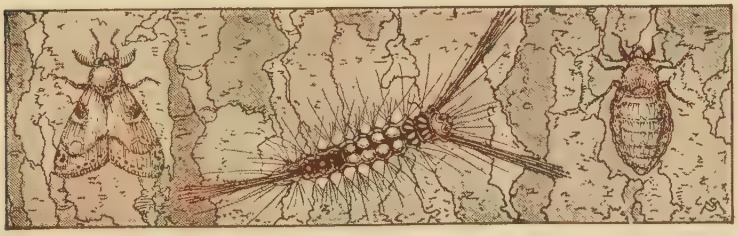
Find a sentence which tells the color of the tussock-moth cocoon.

Find three sentences which tell what the female tussock moth looks like.

Find a sentence which tells what the male moth looks like.

Find a sentence which tells where the tussock moth lays her eggs.

Find a sentence which tells what hatches out of the eggs that the mother moth lays. What becomes of the mother moth?



WHAT YOU CAN DO

If you want to see how tussock caterpillars grow, take a mass of the eggs from a tree trunk. Put it in a glass jar. Fasten a thin piece of cloth over the top of the jar. Some morning you will see hundreds of little wormy creatures crawling about in the jar. Some of the eggs have hatched. The caterpillars will be

very small at first. Put some leaves into the jar. The caterpillars will eat the leaves and begin to grow larger. Soon you will have too many for the jar. Save a few so that you can watch them grow. Destroy the others.

This kind of caterpillar sheds its skin five times. Each new skin looks different from the old. Be careful not to touch the caterpillars. The sharp hairs on their bodies may hurt your skin.

Caterpillars are very harmful to our trees. They like to travel about. They crawl up and down the tree trunks in search of food. Often they will strip a tree of most of its leaves.

There are two good ways by which we can get rid of these pests. One way is to band the trees with something sticky. The caterpillars cannot crawl over this sticky band up to the leaves.

Another way to get rid of these leaf-eating pests is to destroy the eggs. It is easy to gather the egg masses, for they are fastened to the cocoon and not to the bark of the tree. The cocoon, with the egg mass on it, can be pulled by hand from the tree. If the cocoon is too high up to be reached, a long pole with

a hook on the end may be used. After the egg masses have been collected, they should be burned. In one city the school children gathered enough egg masses to have a large bonfire. Most of the people in the town came to see the eggs burned.

CAN YOU TELL?

What can you do if you wish to see how the caterpillar of the tussock moth grows?

How do the caterpillars of the tussock moth harm our trees?

How can you keep the caterpillars of the tussock moth from crawling up a tree to the leaves?

How can you destroy the eggs of the tussock moth?

WORDS OUT OF PLACE

In each of the following lists there is one word which does not belong with the other words in that list. Find the word. Tell why you chose that word.

1. lion, tiger, codfish, elephant, camel
2. wheat, grapes, rye, corn, barley
3. ceiling, floor, sidewalk, door, wall
4. aëroplane, ship, train, horses
5. iron, copper, lead, silver, silk
6. kitten, puppy, horse, colt, lamb
7. silk, wool, cotton, shoes, linen
8. chair, bookcase, table, bed, boy
9. pen, ink, paper, tea, blotter
10. fly, mosquito, moth, gnat, mouse
11. rain, summer, snow, hail, sleet
12. arms, eyes, nose, chin, mouth
13. peas, beans, potatoes, pork, corn
14. building, brick, stone, clay, wood

ROMAN NUMERALS

Have you ever seen any numbers like these: XII XL XXV LXXV?

These are called Roman numerals. Long ago the Romans used letters instead of figures in writing their numbers. They made all their numbers by using seven different letters. These are the seven letters and the figure for which each stands:

I = 1	L = 50
V = 5	C = 100
X = 10	D = 500

M = 1000

These letters are put together to make the different numbers.

Here are the Roman numerals from one to twelve. Name them.

I II III IV V VI VII
VIII IX X XI XII

Find five. Find four. Do you see that four is made by placing I before V? That takes one away from five and leaves four.

Find ten. Find nine. Do you see that nine is made by placing I before X? That takes one away from ten and leaves nine.

Find six. Do you see that six is made by placing I after V? That adds one to five and makes six.

Find eleven. How is eleven made?

Find seven. How is seven made?

Find twelve. How is twelve made?

Can you read these Roman numerals?

III XIII LI M CV DCC
VIII XC LX XX

We often use Roman numerals to number the chapters in books. Have you ever read a book that was divided

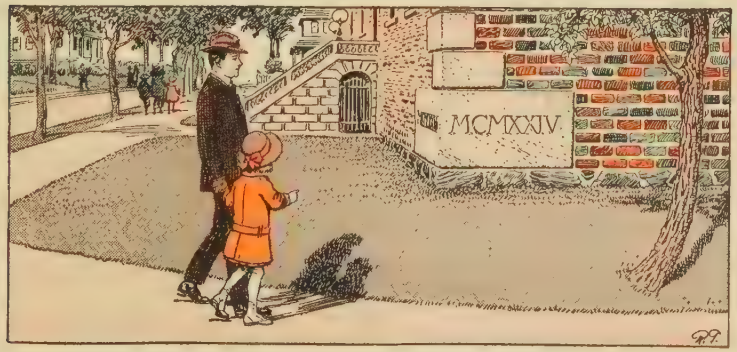
into chapters? Were Roman numerals used to number the chapters?

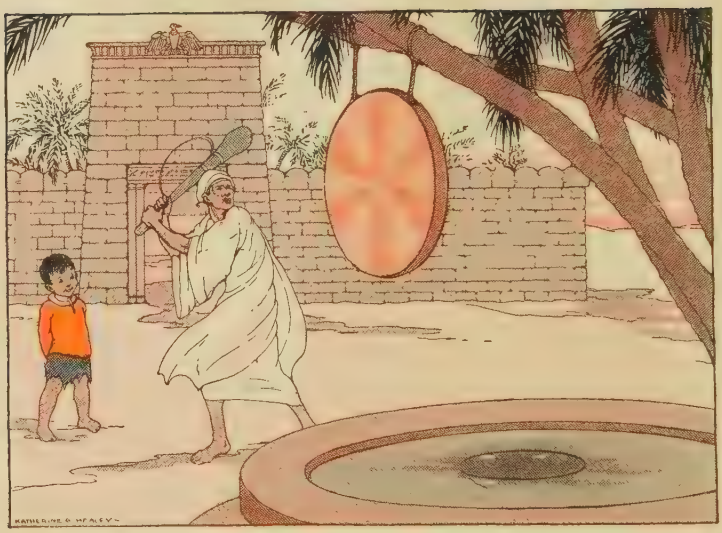
Roman numerals are sometimes used on clocks. Are there Roman numerals on the face of your clock?

Have you ever seen Roman numerals on buildings? They tell the year in which the building was built.

Did you ever make an outline? Roman numerals are used for the main topics in an outline.

Look through this reader and find all the places where Roman numerals are used. How many places did you find?





SOME STRANGE WAYS OF TELLING TIME

Have you ever wished to know the time of day when you were far away from a clock or a watch of any kind? Perhaps you tried to find out what time it was by looking at the sun. But the sun does not shine every day.

Have you ever wondered how people of long ago told time? They did not have clocks like ours. When you go home

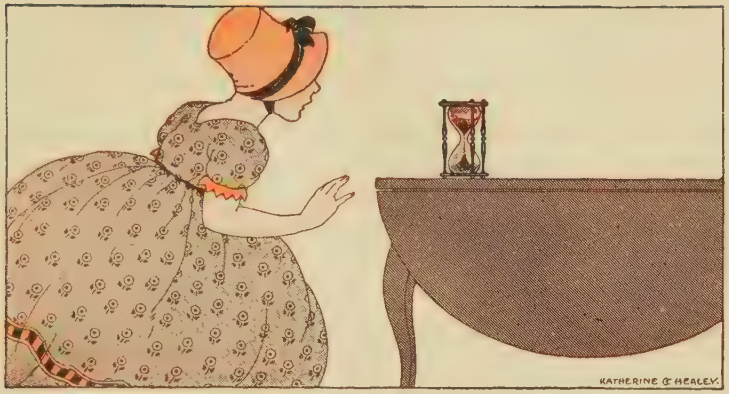
ask someone in your family this question: How did people tell time before clocks like ours were made? See how many ways your family know about. If you read this story carefully, you can tell of three ways in which people of long ago told time.

Years and years ago people did not tell time as we do now. They did not divide the time into hours. They measured the time in days. They watched the sun and told by the number of times it rose and set how many days had passed. Instead of saying, "It is three days since we caught that bear," they would say, "It is three suns since we caught that bear."

After a while some men found ways of telling the hours. Far away in a country called Egypt they used what was known as a water clock. A big brass

bowl was placed in a pool of water. Down in the bottom of the bowl was a tiny hole. The bowl floated on the water. The water slowly crept in through the tiny hole. Lower and lower the bowl sank as the water rose in it. When the bowl was full to the brim, the people knew that an hour had gone by, for they had found out that it took just one hour to fill the bowl.

Every time the bowl was filled, a man struck a gong which hung above the pool on the branch of a tree. When the bowl had filled the first time, showing that one hour had gone by, the man struck the gong once. That meant that it was one hour since sunrise. When the second hour had passed, he struck the gong twice. Six strokes on the gong meant that six hours had passed since sunrise.



Another way of telling the hours was by the hourglass. The hourglass was divided into two parts, with a tiny opening between the parts. In one part was sand. When this part of the glass was turned to the top the sand would run slowly down into the lower part. When the sand was all gone from the upper part, an hour had gone by. Then the glass was turned upside down, and the sand ran back into the other part to mark another hour.

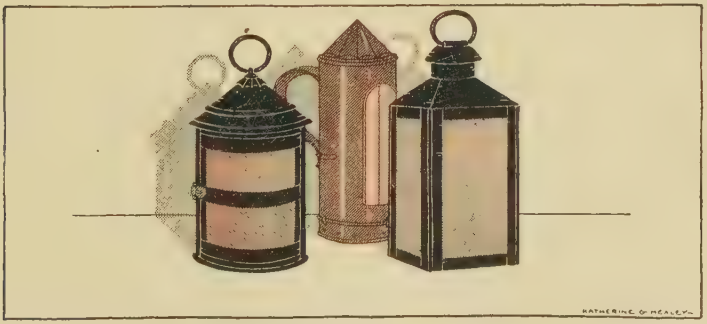
Sometimes the preacher used an hour-glass when he preached his sermon. He

would preach until all the sand had run out of the top of the glass. How the little children would sigh if he turned the glass over and went on with his sermon! Two hours is a long time to sit still.

To-day there are little three-minute glasses which are made like the hour-glass. These are sometimes used to tell how long to boil eggs. Perhaps your mother has used one of these glasses.

Long ago, in England, in the time of King Alfred the Great, candles were used to tell time. Each candle was divided into twelve parts by colors or by notches. People knew just how long it took for the candle to burn down to a notch or to a new color. When three parts of the candle had burned down, an hour had passed by. Each candle lasted four hours. Six candles would last from one sunrise to the next sunrise.

The king noticed that the wind made his candles burn too fast, so he made a covering of horn to put around them.



The light shone through the horn. People called these covered candles "lanthorns."

Many strange ways of telling time were used before we had clocks and watches. Perhaps you have heard of other ways not mentioned in this lesson.

CAN YOU ILLUSTRATE THE LESSON?

If you are going to tell your family about the early ways of telling time, you will need to have some pictures to show them. Can you draw pictures of three strange ways of telling time?

Take a large sheet of paper. See how well you can arrange the three drawings on your paper.

Draw a picture of the water clock.

Draw a picture of the hourglass.

Draw a picture of the time candle.

Under each picture print the name of the picture.

ALIKE OR DIFFERENT

1. In what way is sugar different from salt?

2. In what way are sugar and salt alike?

3. What does a pencil have that a pen does not have?

4. In what way is a square different from a circle?

5. What can you do with a saw that you cannot do with a hammer?

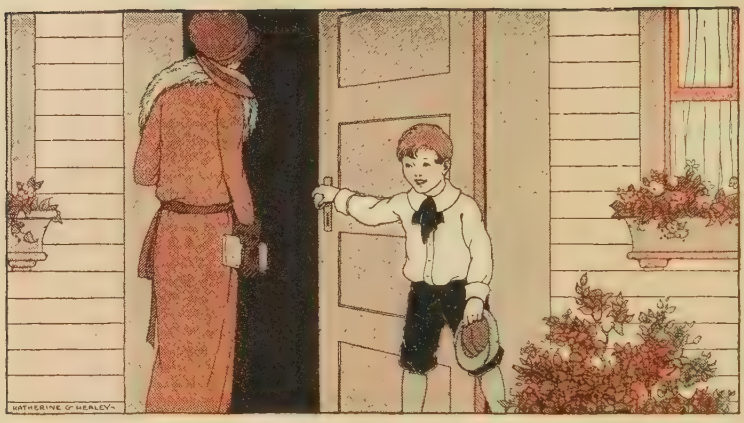
6. What does an automobile have that a wagon does not have?

7. In what way is night different from day?

8. What can you do with a spade that you cannot do with a rake?

9. In what way are milk and water alike?

10. What can you do with a knife that you cannot do with scissors?



COURTESY

Almost all boys and girls wish to be courteous to those around them. One thing that helps children to become courteous is to think about other people instead of themselves.

In a certain school the boys and girls tried very hard to learn to be courteous. These are some of the things which they did in one week.

One boy helped up a little boy who had fallen down.

Another boy held the door open for his teacher who was going out.

One little girl said, "I beg your pardon" when she passed in front of another child.

When a girl ran into another child, she said, "I beg your pardon. I am very sorry."

As a boy passed out of the room he closed the door carefully so that it would not slam.

A girl picked up a coat that had fallen to the floor.

When someone lent a girl some paper, she said, "Thank you."

A boy rose quickly to help someone who came into the room with an armful of books.

Several boys and girls helped the little children to put on their overshoes and coats.

All the children tried to do their work without complaining.

Do the children in your school do these things? Perhaps you can think of many other courteous things to do.

SOMETHING TO DO

Think of four things which you could do at home to show courtesy.

Watch for acts of courtesy in your school. See how many you can notice in one day.

Think of five acts of courtesy which you have seen in your school.

Plan to act out some of these things. See if the other children can guess what you are acting.

What things have you seen in your school which were not very courteous?

Can you think of ways in which these things can be changed?

THE TELEPHONE BOOK

Have you ever called anyone over the telephone? Did you know the telephone number or did you look it up in the telephone book? Does it take you a long time to find a name in the telephone book? How do you know just where in the book to look for the name you wish to find?

This lesson will help you to learn how to use the telephone book.

What is the first letter in the alphabet? Look at the list of names at the bottom of this page. Find in the list a person's name which begins with *A*. Write the name on your paper.

What is the second letter in the alphabet? Find a name beginning with *B*. Write it below the name beginning with *A*. Find a name beginning with *C*. Write it next. Find a name beginning with *D*. Write it next.

Smith	Brown	Jones	White
Anderson	Cox	Zink	Ingram
Unger	Young	Flinn	Ralls
Edwards	Voss	Olds	Thayer
Goldsmith	Hall	Lang	Neal
Piper	King	Drum	Mann
	Quinn	Xeres	

Write a name beginning with *E*, with *F*, with *G*, and so on to the end of the

alphabet. Write the names in order. Is there a name for every letter?

You have now written all the names in the way the letters come in the alphabet. This is called arranging the names alphabetically. The names in the telephone book are arranged alphabetically.

In this lesson there is only one name beginning with *A*. In the telephone book there are a great many names beginning with *A*. There are a great many names beginning with *B*, with *C*, and with most of the other letters.

In the list of names you have just written see how quickly you can find a name beginning with *D*.

Find a name beginning with *W*. Is it near the beginning of your list or near the end?

Can you find a name beginning with *K*? Is it near the beginning of the list?

Put your finger on a name beginning with *D*. Near what part of your list is that name?

Find a name beginning with *L*.

Near what part of the list should you find a name beginning with *S*?

What names are nearest the middle of your list? What names are near the end of your list?

Find a name beginning with *F*.

Below is the picture of a part of a page from a telephone book. Do the pages in your telephone book look like this?

Cabot John B r 45 Pine . . . . . PLA za 9382
Cabot Rachel Miss r 19 Lee . UNI versity 7776-W
Cabot & Jones, Grocers, 143 Canal . SPR ing 1120
Caddigan Wm. J r 424 Moody . . PLA za 6221-M
Cadwell Arthur L r 21 Avon pl TRE mont 3892-W
Cadwell Silas F & Co, 2642 Pearl . . . MAI n 1000
Cady Anna T Miss r 132 Elmwood REG ent 712-W
Cady L P, lawyer, office 13 Oak . . . . MAI n 4221
Res 1761 Edgewood av . . . UNI versity 0674-M
Cahill Thomas H r 370 High . . . . . .LEN ox 2074
Calder George L r 49 Church PAR kway 3483-R
Calder Furniture Co 735 Fourth . . . CAN al 6180
Caldwell Esther G Miss r 31 Hnck ACA dmy 316-J
Cameron Walter B r 18 Royal RIV erside 2585-W
Campbell Arthur S r 296 Beacon . . PLA za 4127
Campbell James L, carpenter, 58 Mn SPR ing 2589
Res 348 Columbia rd . . . . . REG ent 0348-M
Canadian Rubber Co 831 Summer . . . MAI n 1850
Capitol Leather Co 40 Broad . . . . . CAN al 5200
Carey Frank D, r, 8 Pleasant . UNI versity 382-J
Carr Helen Miss r 46 Lake . . . . . LEN ox 6753-R
Carroll A M, tailor, 78 Main . . . . . CAN al 6548
Carroll Edward L physician 637 Elm SPR ing 6841
Castle Frederick W 71 Clifton rd REG ent 742-W

CAN YOU COMPLETE THESE SENTENCES?

unless	when	since	but
because	than	if	and
whether	after	or	while

These twelve words are very important words in reading. Each of them belongs in one or more of the sentences which are given below. As you read each sentence put in the word which you think has been left out.

1. You should not eat food which you find in the street _____ on the sidewalk.
2. Come over this afternoon _____ you can.
3. I would rather be well _____ sick.
4. _____ winter comes the weather will be colder.
5. No child should miss school _____ he has a good reason.
6. I could not come _____ I was sick.

7. Children should drink milk _____ they like it or not.

8. Wash your face _____ hands before you eat.

9. Our bodies mend and grow _____ we are sleeping.

10. Only a few years have passed _____ the World War ended.

11. _____ the rain was over, the children went outdoors to play.

12. The father bluebird has brighter colors _____ the mother.

13. It is a long time _____ America was discovered.

14. You will be in the fourth grade next year _____ you are promoted.

15. We saw a rainbow _____ it was raining.

16. Do not go into deep water _____ you can swim.

17. I like candy _____ it is sweet.

18. Salt looks somewhat like sugar, _____ it does not taste sweet.

19. It gets dark _____ the sun has set.

20. We should drink milk _____ it is good for us.

21. Aëroplanes can travel faster _____ trains.

22. People will not trust you _____ you do not tell the truth.

23. Do not talk _____ people are singing.

24. Water does not freeze _____ the weather is cold.

25. Ice melts rapidly _____ the sun is hot.

26. _____ we do not stand straight, our backs will grow crooked.

27. Birds can fly, _____ dogs cannot.

28. We will go _____ it rains.

RULES ABOUT EATING

Here are nine rules about eating. Each rule tells about one of three things. It tells you *what to eat*, *how to eat*, or *when to eat*. As you read each rule, find whether it tells *what to eat*, *how to eat*, or *when to eat*.

1. Eat slowly and chew your food well.
2. Eat at about the same hours every day.
3. Eat plenty of hard foods, such as toast, apples, and baked-potato skins.
4. Eat many vegetables and very little meat.
5. When you are very tired or hot, rest a while before you eat.
6. Do not eat all the time.
7. Do not eat too much sugar.
8. Every day eat some such fruit as oranges, apples, figs, or stewed prunes.

9. Do not wash down your food with water or milk.

LEARNING TO OUTLINE

The rules which you have just read tell about these three things:

I. What to eat
II. How to eat
III. When to eat

The words beside I, II, and III are called subjects or topics. Read the rules which are about *What to eat.* There are four of them. Here is one way to show that there are four sentences about topic I:

I. *What to eat*
   A.
   B.
   C.
   D.

A, *B*, *C*, and *D* mean that there are four sentences which tell about *What to eat.* Find one of the sentences. Call it

A. Find another sentence. Call it *B*. Find another. Call it *C*. Find another. Call it *D*.

Read the sentences which are about *How to eat*. There are two of them. Here is one way to show that there are two sentences about topic II:

II. *How to eat*
A.
B.

A and *B* mean that there are two sentences about *How to eat*. Which sentence will be *A*? Which will be *B*?

Read the sentences which are about *When to eat*. There are three of them. Here is one way to show that there are three sentences about topic III:

III. *When to eat*
A.
B.
C.

A, *B*, and *C* mean that there are three sentences which tell about *When to eat.*

You have been making an outline of what you have read. When the parts of the outline are put together, the whole should be written like this:

I. *What to eat*
   A.
   B.
   C.
   D.

II. *How to eat*
   A.
   B.

III. *When to eat*
   A.
   B.
   C.

SOMETHING TO DO

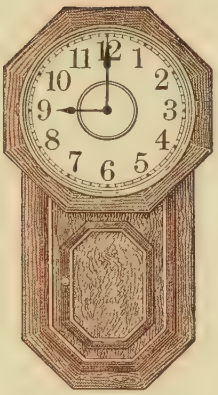
Copy this outline on paper and fill in the rules which go with each letter.

CAN YOU TELL?

coal	sugar	corn
wool	leather	furs
cotton	rubber	coffee

Fill the blanks with the proper word. Choose the word from those at the top of the page.

1. _____ is dug from the ground.
2. _____ is the seed of a plant.
3. _____ is made from beets or cane.
4. _____ is made from the milky juice of a tree.
5. _____ grows on the back of an animal.
6. _____ are the skins of animals.
7. _____ is the seed of a tree which grows in warm countries.
8. _____ is the tanned skin of an animal.
9. _____ grows on a low plant.



LEARNING TO TELL TIME

Part I

Is there a clock in your schoolroom? Does it look like this clock?

Every clock has twelve numbers on it. Find the numbers. Point to each number on the clock, saying it to yourself as you point. Each one of those numbers stands for the hour.

Every clock has two hands. One hand is longer than the other. Point to the long hand. Point to the short hand.

We call the short hand the *hour hand.* The hour hand tells the hour. We call the long hand the *minute hand.* The minute hand tells the minutes.

Look at the first clock in the picture on this page. At what number is the hour hand pointing? At what number is the minute hand pointing?

When the hour hand points to *9* and the minute hand points to *12,* we say that it is nine o'clock. Point to the clock which says that it is nine o'clock.

Look at the second clock on page 82. Where is the hour hand? Where is the minute hand? When the hour hand points to *4* and the minute hand points to *12*, it is four o'clock. Point to the clock on page 82 which says that it is four o'clock.

Look at the third clock on page 82. Where is the hour hand? Where is the minute hand? What time is it by that clock?

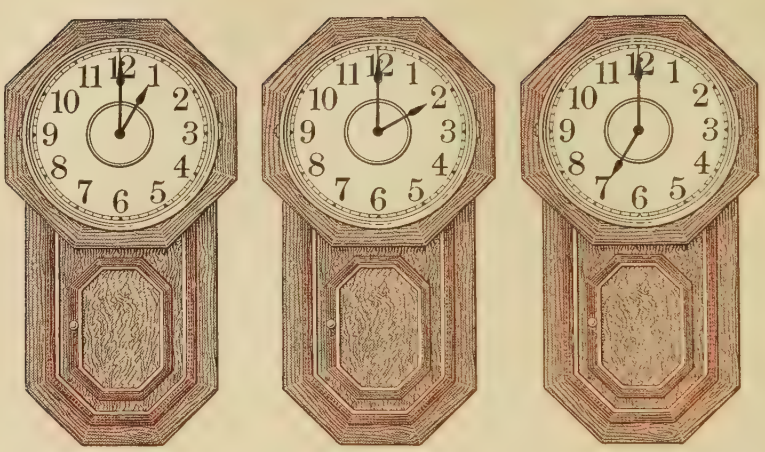
Does one of these three clocks show the hour at which your school begins?

Which clock tells you the hour at which you should go to bed?

Remember that the short hand is the hour hand. It always tells the hours.

The long hand, or minute hand, always tells the minutes.

Draw a clock which says that it is five o'clock.

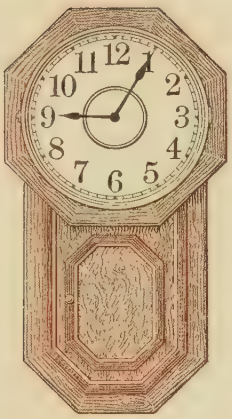


The hour hand always tells the hour. Where is the hour hand in the first clock? What time is it by that clock?

Look at the second clock. Where is the hour hand? What time is it?

It takes one hour for the hour hand to go from *1* to *2*. It takes one hour for the hour hand to go from *2* to *3*. How long does it take the hour hand to go from *5* to *6*? from *8* to *9*?

Look at the third clock. What time is it by that clock?



PART II

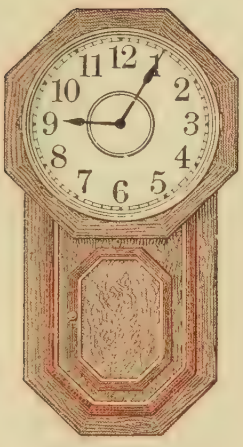
Look at the clock in this picture.

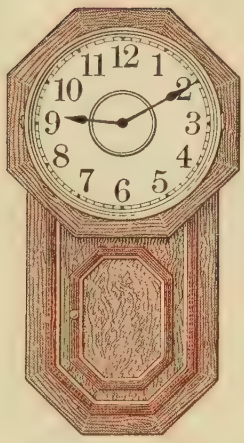
Do you see those little spaces that are marked off between the numbers? Each of those spaces stands for a minute. Count the spaces between *12* and *1*. How many spaces did you count? How many spaces are there between *1* and *2*? If each space stands for a minute, how many minutes are there between *12* and *1*? How many minutes are there between *1* and *2*?

It takes the minute hand five minutes to go from *12* to *1*. It takes it five minutes to go from *1* to *2*. Look at the clock on page 85. How many minutes does it take the minute hand to go from *3* to *4*? from *4* to *5*?

It always takes five minutes for the minute hand to go from one number to the next.

Can you count by fives? Beginning with the number *12* on the clock, count by fives around the clock. You should count to sixty, because there are sixty minutes marked off on the face of the clock. Sixty minutes make one hour. It takes the minute hand one hour to go all the way around the clock. How long does it take the minute hand to go halfway around the clock? Count the minutes by fives halfway around the clock. How many minutes did you count?



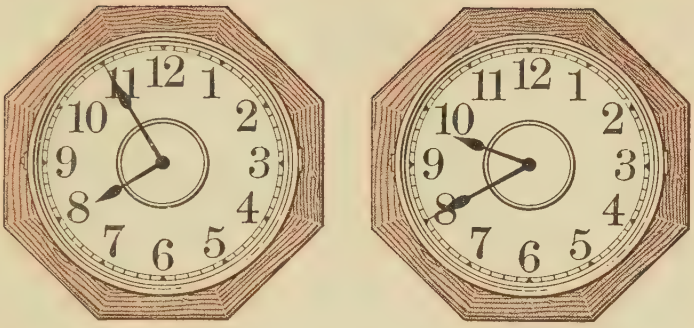


Look at the first clock in the picture on this page. Where is the hour hand? Where is the minute hand? How many minutes did it take the minute hand to go from *12* to *1*? We always begin at *12* to count the minutes. When the hour hand is at *9* and the minute hand is at *1*, it is five minutes after nine o'clock.

Look at the second clock in the picture. How many minutes did it take the minute hand to get to *2*? How many minutes after nine o'clock is it?

Where is the hour hand in the first clock on this page? Count by fives to find out how many minutes the minute hand shows. How many minutes after eleven is it?

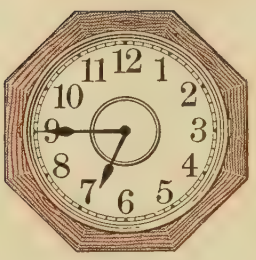
Look at the second clock. How many minutes after nine is it? When the minute hand has gone halfway around the clock, it is half past the hour. It is half past nine by this clock. Where would the hands be at half past ten?



PART III

Look at the first clock in the picture. Where is the hour hand? Where is the minute hand? It is almost eight o'clock. But it will not be eight o'clock until the minute hand is at *12*. How many minutes will it take the minute hand to go from *11* to *12*? Because it takes the minute hand five minutes to go from *11* to *12*, we say it is five minutes to the hour. It is five minutes to eight by the first clock.

Where is the hour hand in the second clock? Find the minute hand. How many minutes will it take the minute hand to



go from *8* to *12*? Count by fives to find out. How many minutes to the hour is it? By the second clock it is twenty minutes to ten.

Look at the first clock on this page. Where is the hour hand? Where is the minute hand? How many minutes to seven is it?

What time is it by the second clock?

When you go home to-night try to tell what time it is by your clock at home.

If your father has a watch, ask him to show it to you. Perhaps there will be three hands on his watch. Ask him what the smallest hand tells.

How many holidays can you name?

The holiday that most children like best is Christmas Day. We celebrate Christmas on the twenty-fifth of December. Do you know whose birthday we celebrate on that day?

The first holiday in the year is New Year's Day. That comes on the first day of January. It is the day on which a new year begins.

Abraham Lincoln was one of our greatest presidents. We honor his birthday on the twelfth day of February.

On the twenty-second of February we celebrate George Washington's birthday. He was the first president of the United States.

Another holiday is Memorial Day, which comes on the thirtieth of May. It is often

called Decoration Day because on that day we decorate the graves of our soldiers.

Independence Day is the next holiday. It is often called the Fourth of July because it comes on the fourth day of July. On that day, nearly one hundred and fifty years ago, our country became a free country.

On the first Monday in September we celebrate Labor Day. We honor the workingman on that day.

The eleventh of November is another holiday. On that day the World War came to an end. We call that holiday Armistice Day.

Years ago the Pilgrims set aside a day of praise to God. They called this day Thanksgiving Day because they were thankful for their blessings. Every year we celebrate this day on the last Thursday in November.

Three special days which children like are Valentine's Day, April Fool's Day, and Halloween.

Valentine's Day is the fourteenth of February.

April Fool's Day is the first of April.

Halloween comes on the thirty-first of October.

How do we celebrate these three special days?

SOMETHING TO WRITE

Write the names of all the holidays and special days mentioned in this lesson. Beside each day write the date upon which it comes. Now try to say each day and its date without looking at your paper. If you cannot remember them all, look back to see which days you have forgotten. See how long it takes you to learn these holidays and special days.

WHEN DO WE COME?

1. I am Halloween. I come on _____ _____.

2. I am Thanksgiving. I come on the _____ _____ _____ _____.

3. I am St. Valentine's Day. I come on _____ _____.

4. I am Christmas. When do I come?

5. I am New Year's Day. I come on _____ _____.

6. I am Memorial Day. I come on _____ _____.

7. I am Independence Day. I come on _____ _____.

8. I am Armistice Day. I come on _____ _____.

9. I am Lincoln's birthday. I come on _____ _____.

10. I am Washington's birthday. I come on _____ _____.

POISON IVY

Look at the picture at the top of the page. Have you ever seen plants like these in the picture? You should keep away from a plant that looks like this. This is the poison-ivy plant. It grows in almost every part of the United States. Perhaps no plant that grows in this country causes so much suffering as does the poison ivy.

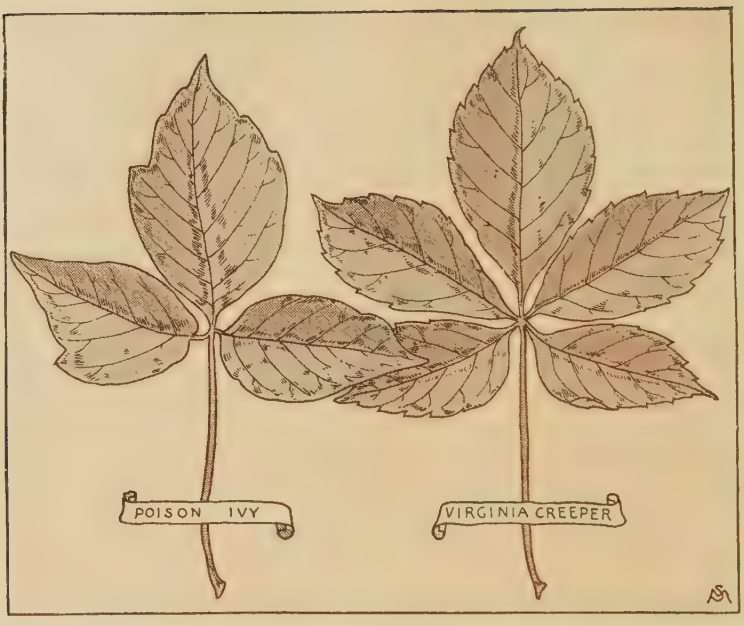
The poison of this plant is a very strong oil that sticks to your skin if you touch the plant or get near it. This oil, if left on your skin, will cause blisters to form. It will also cause a swelling of the parts of your body which are poisoned. If you poison your face, your eyelids may swell shut. Ivy poisoning causes great pain and is sometimes very dangerous.

Some people are more easily poisoned by poison ivy than are others. Those who have thin, tender skins are more likely to be poisoned than those whose skins are not so tender.

You are more likely to be poisoned when you are very warm than when you are cool. When you are perspiring, the pores of your skin are open. The poisonous oil from the plant can easily get into the open pores.

How can you keep from being poisoned? The safest thing is not to touch poison ivy or to get too near it. Everyone should know what a poison-ivy plant looks like. It is easy to tell it because its leaf has three parts. Before you touch a vine which is growing on a tree or along the road, look closely at the leaves. See if the vine has its leaves arranged in three parts. If the leaves look like those in the picture on page 95, stay away from the vine.

Of course not all vines which are found on trees and along the road are poisonous. The Virginia creeper is a very common climbing vine. It can be told from poison ivy because its leaves are arranged in five parts instead of in three parts, like the poison ivy. A picture of the Virginia creeper is shown at the top of the next page.



Whenever you have been near poison ivy, it is a good plan to bathe thoroughly with laundry soap. If any part of your body has accidentally touched poison ivy, wash that part several times with strong laundry soap. The strong soap takes off the oil of the poison ivy. Toilet soap will not do, as it will not take off enough of the oil.

One way to protect ourselves against poison ivy is to kill all poison-ivy plants that grow in yards or in other places where people are likely to touch them. Someone who is not easily poisoned should put on leather gloves and pull the plants up by the roots. The plants may also be killed by cutting them off at the roots and pouring something on the roots which will kill them. Lubricating oil such as is used in automobiles will kill poison-ivy plants.

What should you do when you have been poisoned? If, after you have been in the woods, some part of your body begins to burn and swell, or blisters begin to form on your skin, it is best to go to a doctor. After the blisters have formed you are likely to suffer a good deal in spite of all the doctor can do for you. It is easy to see that the wisest

thing for anyone to do is to try to keep from being poisoned.

DRILL IN MEMORIZING

It is important that you should remember what this lesson tells you because it may sometime save you great suffering.

You will not remember the lesson if you read it only once. The best way to remember a lesson is to think over what you have read and to choose the main points which you want to remember. Following are the nine main points in the lesson about poison ivy:

1. How you can recognize poison ivy
2. How you can tell poison ivy from Virginia creeper
3. How poison-ivy plants can be destroyed
4. How poison ivy acts on the skin

5. What to do in case you have been near poison ivy

6. Why toilet soap should not be used to wash off the oil of poison ivy

7. Why you are likely to be poisoned while perspiring

8. What to do in case you think you have been poisoned

9. Where poison ivy is found

Now try to tell about these main points without looking back at the lesson. Turn back to the lesson and read again about the points which you do not remember very well. Keep on doing this until you can tell about each point.

REMEMBERING GAME

This is a test to see how well you can remember. Read the following paragraphs. As soon as you have finished reading each paragraph, do what it says without looking at it again.

1. Run to the window and look out. Come back and tell the children what kind of day it is.

2. Find an empty chair or seat in the room. Sit down in it and stay while you count ten. Run back to your seat.

3. Run to the blackboard. Write your telephone number on the board. After everyone has had a chance to see it, erase it. Then run quickly back to your seat.

4. Skip to the front of the room. Tell the class your name, your age, and your address. Then run to your seat.

5. Get a book from the teacher's desk. Open the book. Hand it to the teacher. Skip back to your seat.

6. Go to the board. Write the word *me* three times. Erase the words. Run to your seat.

7. Get a book from the teacher's desk. Turn to page 45 in that book. Go to the front of the room. Read aloud the first word on the page.

8. Go to the front of the room. Show the children how to stand straight. Take three deep breaths. Return to your seat.

9. Run to the front of the room. Repeat a Mother Goose rime. Walk slowly around the room before you go back to your seat.

10. Stand. Count the number of children in the room. Then walk to the blackboard and write the number which shows how many children you counted. Then run to your seat.

PLANNING A SCHOOL PROGRAM

A group of children one day were watching the elephants in a circus parade. A boy noticed that a man was riding one of the elephants. "How do the men get up on the elephant's back, I wonder?" he said. None of the children could tell him.

Another boy asked, "Where do the circus owners get so many elephants?" No one could answer that.

"Do elephants cost much money?" was another question which someone asked. No one knew how much they cost.

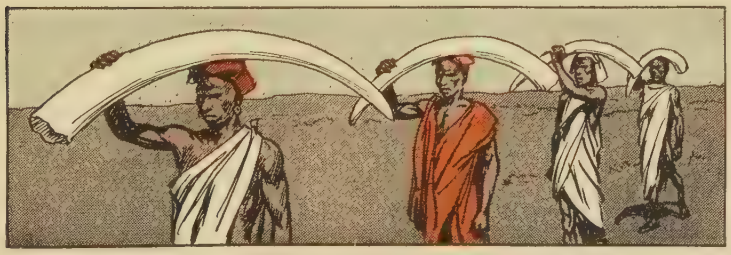
"How big is a baby elephant?" another boy asked.

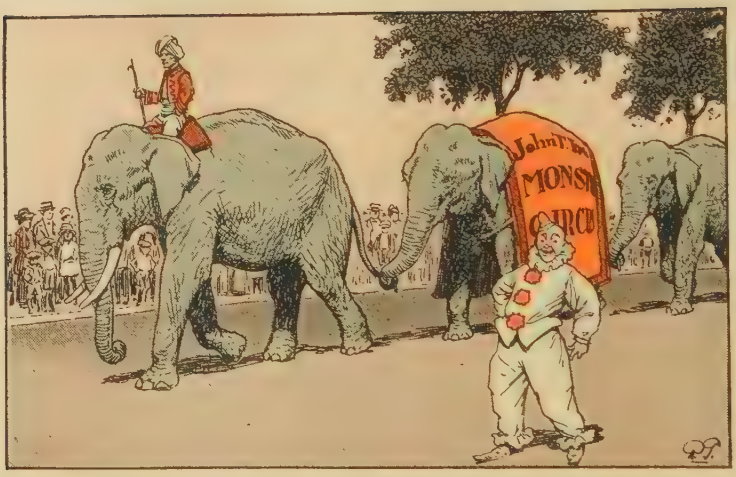
Could you have answered any of these questions for the boys? Suppose you ask your teacher if you may plan a program in which you tell everything that you can find out about elephants.

The lesson beginning on page 106 tells the following things about elephants:

1. Elephants in the circus
2. Other uses of elephants
3. The size of elephants
4. How long elephants live
5. How elephants are captured
6. Elephants in captivity
7. The value of elephants
8. The habits of elephants

Choose one of these topics for your report on the program. See how many things you can find to tell the other children about your topic.





ELEPHANTS

ELEPHANTS IN THE CIRCUS

Have you ever seen an elephant in a circus parade? Perhaps you have seen a number of them marching along. Often each elephant has hold of the tail of the elephant in front of him. They march along very quietly. They seem to know just where they belong in the parade.

In some parades a man sits on the back or on the head of each elephant. In

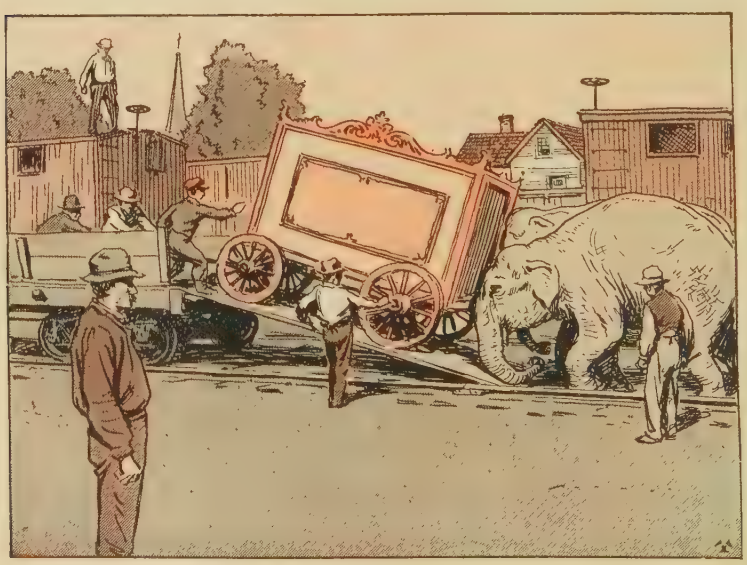
his hand he carries a long stick with a hook on it. He guides the elephant with this stick. A touch on the ear or on the shoulder tells the elephant which way to go.

Inside the circus tent the elephants usually have a part in the performance. Some stand up on their hind legs. Some sit on big stools. Some roll a big ball around. Sometimes an elephant stands

on his head and front legs. One circus even had a baseball team of elephants. You can imagine how funny an elephant would look trying to bat a ball.

After the circus is over, the elephants help the circus men get ready to move to the next town. They push the heavy wagons into place. They carry heavy poles.

Elephants learn very quickly. You have just read of three things they can learn



to do. They can learn to march in a circus parade. They can learn to do tricks in the circus tent. They can help the circus men get ready to go into the next town. Do you know of any other things that elephants have learned to do?

CAN YOU DO THIS?

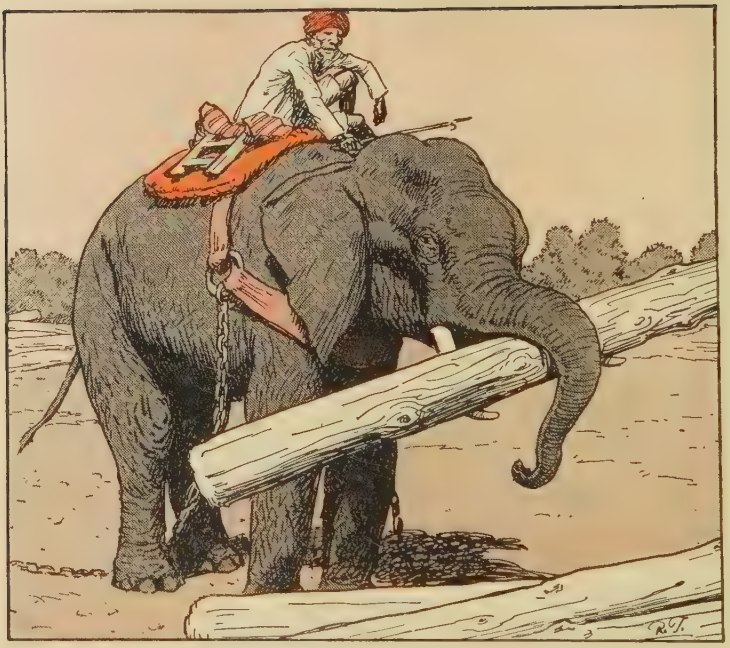
1. Find a sentence which tells how the elephants keep together in the parade when they are marching.

2. Find a sentence which tells how the elephants in a parade are guided.

3. Find four sentences which tell how the elephants perform in the circus.

4. Find two sentences which show how the elephants help after the circus is over.

5. Find three sentences which show what the elephants can learn to do for the circus men.



OTHER USES OF ELEPHANTS

In some countries men train elephants to work in the lumber camps. An elephant with tusks can easily move a small log. He shoves his tusks beneath the log and wraps his trunk about it. Then he can easily carry the log to the pile where it belongs.

If the log is heavy, the elephant drags it by one end to the pile. Sometimes a rope is used to help the elephant move the heavy logs. The men fasten one end of a strong rope to the log. The elephant takes the other end of the rope between his strong teeth. Then he drags the log to the pile where it belongs.

The elephant learns to place the logs so carefully on the pile that they do not fall off. He can do this without much help from the men in the lumber camp.

The elephant can also learn to pull or push wagons. He can push better than he can pull. He can push hard enough with his head to move even a car on a railroad track. In some countries he pulls a plow for the farmer.

The elephant can carry a heavy load on his back. He is very useful in carrying loads over hills and mountains where the

roads are so bad that neither wagons nor automobiles can be used.

In some countries people ride on elephants. The riders sit in seats like the one in the picture. This seat is tied on the elephant's back. It is called a howdah. Several people can ride in it at one time.

How do you suppose people get into this seat? A rider in India may mount an elephant by having the animal lift a forefoot and bend it upward. The bare-footed driver steps upon the elephant's foot, seizes him by the ear, and climbs up his side to the seat. Or the elephant may kneel to make it easy for the rider to climb to his back. Those who ride in the howdah usually climb up by means of a ladder.

In India people sometimes use elephants to hunt tigers. The hunters sit or stand in the howdah while they shoot. You can see that it would be much safer to shoot a tiger from the back of an elephant than from the ground.

A long time ago soldiers sometimes used elephants in war. In those days soldiers had no guns. Men rode the elephants into the ranks of the enemy.

The enemy on foot had very little chance against these strong and large animals. The elephants trampled them underfoot. The men on the elephants shot their enemies with arrows. It is said that the elephants frightened the horses of the enemy so badly that they ran away as soon as the elephants came near.

After a while the enemy learned that by waving burning torches before the elephants' eyes they could frighten the huge animals away.

CAN YOU COMPLETE THESE SENTENCES?

1. Men train elephants to work in _____ _____.

2. An elephant carries logs by means of his _____ and _____.

3. A rope is often used in moving _____ _____.

4. The elephant takes hold of the rope with his _____ _____.

5. Sometimes elephants push or pull _____.

6. An elephant can push hard enough with his _____ to move a _____ on a railroad track.

7. Elephants are used in carrying loads over roads too bad for _____ or _____.

8. The seat in which people ride on an elephant's back is called a _____.

9. Sometimes people climb into the howdah by means of a _____.

10. Elephants are used in India to hunt _____.

11. A long time ago soldiers used elephants in _____.

12. The enemy frightened the elephants away by waving _____ _____ before their eyes.

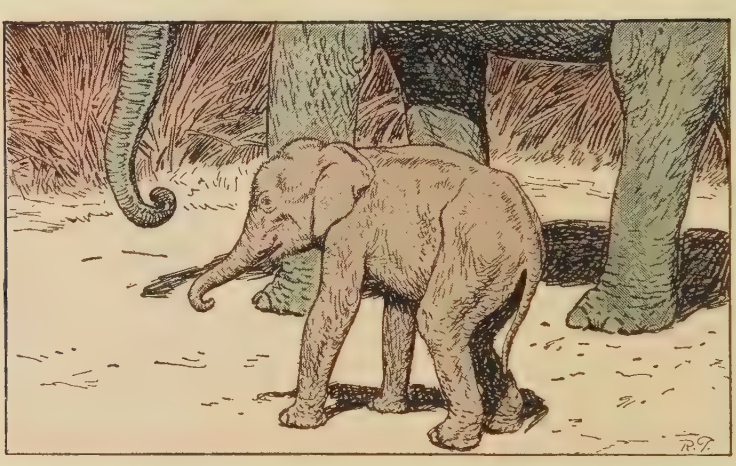
THE SIZE OF ELEPHANTS

The elephants in the circus seem very big, but the biggest circus elephant is smaller than some wild elephants that have been killed. Even a baby elephant is as big as the largest dog. Elephants are the biggest animals we have on land.

One full-grown elephant named Bolivar was ten feet high. If he stood up in your schoolroom, how far would the top of his back be from the ceiling? Bolivar weighed twelve thousand pounds. This is as heavy as six of our large horses. It is four times as heavy as a medium-sized automobile.

Another enormous elephant was named Jumbo. Your grandfather and grandmother may remember Jumbo. He was one of the elephants in Barnum's circus. When he was twenty-six years old he was eleven feet and two inches high. On page 116 you can see his picture. Jumbo's skeleton is now in the American Museum in New York City.

A baby elephant looks small compared with his father or mother, but he is really a big baby. When he is born he is not quite three feet high and weighs



about one hundred and fifty pounds. When he is six years old he is about six feet tall and weighs not quite three thousand pounds. It takes him about twenty-five years to get his full growth.

HOW LONG ELEPHANTS LIVE

Have you ever read or heard how old an elephant lives to be? Elephant drivers say that most elephants live to be about eighty years of age. A few elephants live to be one hundred years old.

TEST

You have just read a lesson about the size of elephants and about the length of life of elephants. Now see if you can answer these questions:

1. With what animal that you know was the baby elephant compared?
2. With what was the weight of Bolivar compared?
3. Which was the taller elephant, Bolivar or Jumbo?
4. Does it take much longer for an elephant to reach his full growth than it does for a dog?
5. How much taller may an elephant be at six years of age than when he is born?
6. Do most elephants live to be eighty years old or one hundred years old?

YES OR NO

1. Circus elephants are the biggest elephants in the world.

2. A baby elephant is as big as the largest dog.

3. Bolivar weighed as much as six of our large horses would weigh.

4. Jumbo was taller than Bolivar.

5. An elephant gets his full growth in twenty-five years.

6. You can see Jumbo's skeleton in the American Museum in New York City.

7. All elephants live to be one hundred years old.

8. A baby elephant is about three feet high when he is born.

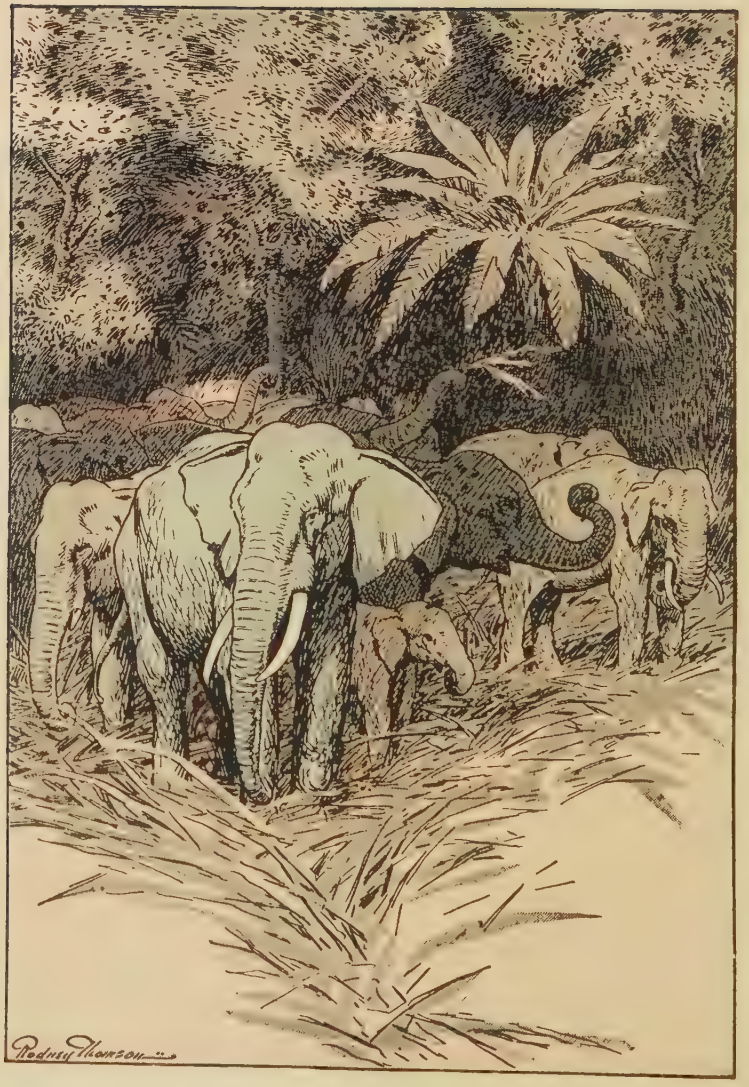
9. Elephants are the biggest animals that we have on land.

10. Most elephants live to be about eighty years old.

Where do you think the owner of a circus gets his elephants? He often buys them from men who have trained them to work. But how are these elephants caught? Many of these elephants are caught wild. Because it takes elephants so long to grow up, it is cheaper to catch a full-grown elephant than to raise one from babyhood.

Wild elephants wander through the jungles in the warm parts of Asia and Africa. They usually travel in herds. There may be ten, twenty, thirty, or even a hundred elephants in one herd. The herd always has a leader who knows where to find food and water. The leader of the herd is usually a mother elephant.

Of course elephants which are used in a circus or for work must be caught


Rodney Thomson

without being hurt. It is not easy to capture wild elephants, but men who know how can do it. Sometimes these men use tame elephants to help them.

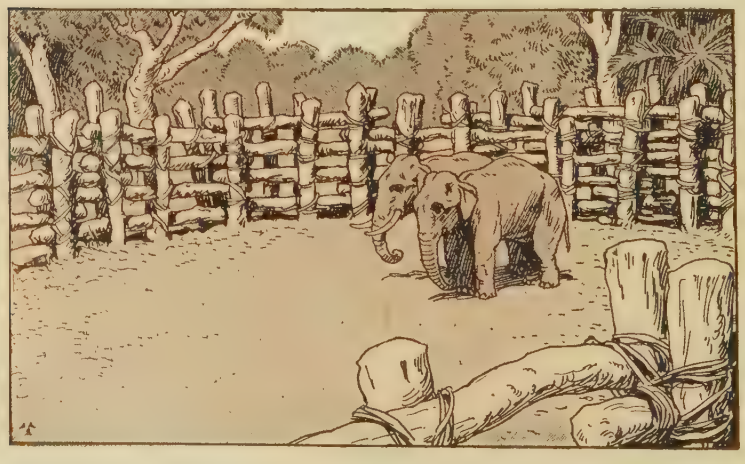
This is the way these men capture elephants. They build a large pen. This pen must be made of strong logs. The logs are a foot thick and more than ten feet long. They are tied together with green bark or vines.

One or more openings are left for gateways. These openings must be planned so that they can be closed quickly after the elephants have been driven into the pen.

When the pen is ready, the men watch for elephants. When a herd comes near, a great many men, sometimes more than a thousand, surround the herd. By waving torches and making as much noise as they can, they drive the ele-

phants into the pen. After the last elephant has gone in, the gate is closed.

Now comes an exciting time. The elephants are so strong that they could tear down a side of the pen if they all pushed against it at once. But whenever the elephants start toward any side of the pen, the men on the outside run to that part of the pen. They wave torches, beat on drums, shoot guns, and make as much noise as they can. In this way they drive the elephants back.



After a time the captured elephants give up trying to escape and huddle together in the center of the pen. Then tame elephants with their riders go among them. The tame elephants seem to quiet the captured ones. Three or four tame elephants may surround a wild one and keep him from running away. A man slips quietly down and ties the feet of the captured elephant with strong ropes. Before long all the wild elephants have been tied up.

HOW WELL CAN YOU TELL THINGS?

Could you tell how elephants are captured? You might make an outline, somewhat like the one on the next page, to help you.

This outline has three parts. Read each part carefully. Try to remember what the lesson told you about each part.

Building the pen

The length and thickness of the logs
How the logs are fastened together
Planning the openings

Surrounding the herd

Driving the elephants into the pen
Keeping the elephants in the pen

Using the tame elephants

To quiet the wild elephants
To help in tying the wild elephants

Using this outline, try to tell just how elephants are captured.

One might think it would take a long time to tame a wild elephant and teach him what to do. This is not true. Most elephants become tame very soon. In a few weeks they can be taught to do simple tasks such as pushing a wagon. Strange as it may seem, the old elephants are often more easily tamed than the young ones. They even seem to learn more quickly.

Most elephants seem to be quite contented in captivity. They are usually kind, patient, faithful, and obedient.

The man who takes care of an elephant in the circus or zoo is called his keeper. Once in a while the elephant dislikes his keeper. This is usually because the keeper has been unkind to him. If an elephant does not like his keeper, a new

keeper must be found. Sooner or later the elephant is almost certain to hurt a keeper he does not like.

Sometimes a tame elephant becomes very dangerous. He tears down everything around him. He pushes huts over. He may even kill a keeper who has never treated him unkindly. Then he has to be shot. Such elephants are called rogues.

One man who knows a great deal about elephants says that he thinks most rogue elephants are sick. Some may have the toothache. Others may have eaten too much. Rogue elephants are so dangerous that they must be either shot or tied up with strong ropes.

CAN YOU FIND THE WORDS?

Find four words which would describe most elephants in captivity.

Find one word which tells what an elephant may do to a keeper whom he dislikes.

Find the word which tells what dangerous elephants are called.

Find one word which tells what a dangerous elephant may do to his keeper.

Find two words which tell what may cause tame elephants to become rogues.

How much do you think a circus has to pay for its elephants? Elephants are so big and so hard to catch that you may suspect they cost a great deal. We know how much Jumbo cost. Jumbo was not full-grown when Barnum saw him in the London zoo. He wanted Jumbo very much. He thought Jumbo would grow to be the biggest elephant in any circus. He paid ten thousand dollars to get him.

All elephants do not cost so much as that. An elephant that is not very big and not well trained may be bought for a few hundred dollars.

The school children of St. Louis decided that they wanted an elephant in the city zoo. They thought of a good way to get one. All the children saved their

pennies. When they had saved enough pennies to make two thousand, three hundred and eighty-five dollars, they bought an elephant. The name of this elephant was Jim. If you are ever in St. Louis, you may see Jim in the zoo.

In Asia, where elephants are used for work, the price paid depends upon the size of the elephant, how well it is trained, its color, and its disposition. To-day a small elephant may be bought for what one would pay for a small automobile. The larger and better-trained animals may cost as much as our most expensive cars.

Wild elephants are often killed for their tusks. For many years some men have made their living by doing this. We call these men ivory hunters. Often these hunters are killed by elephants.

A great many things are made from these ivory tusks. Can you think of anything that is made from them? Ornaments and backs of hairbrushes are sometimes made of ivory. The keys of expensive pianos are usually made of ivory.

It is said that forty thousand elephants are killed each year so that their tusks may be sold. One pair of tusks may weigh more than a hundred pounds.

Many people think that soon very few elephants will be left if we kill so many of them. When we have good substitutes for ivory, doesn't it seem a pity to kill a harmless elephant just to get his tusks?

HOW CAREFULLY DO YOU READ?

Find the paragraph which tells about Jumbo. Read the sentences which answer the following questions:

1. How much did Jumbo cost?
2. Where did Barnum find him?

Find the paragraph which tells about elephants in Asia. Find four things upon which the price of an elephant depends.

Find the paragraph which tells what is made from the tusks of the elephant. Which of those articles have you seen?

Find the paragraph which tells about

the elephant that some school children bought. Read the sentences which answer the following questions:

1. Where did these children live?
2. How did they obtain the money to buy the elephant?
3. How much did the elephant cost?

Find the paragraph which tells why men kill wild elephants. Find two words which tell what these men are called.

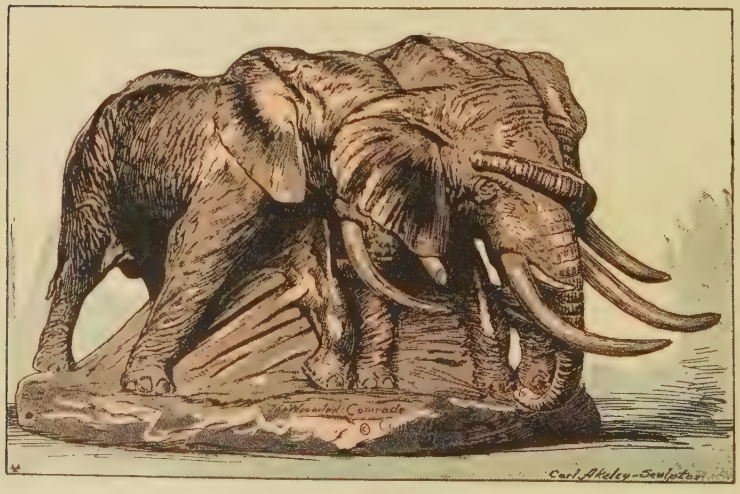
Find the paragraph which tells how many elephants are killed each year for their tusks. Read the sentences which answer the following questions:

1. What may happen if we keep on killing so many elephants?
2. How much may one pair of tusks weigh?
3. How many elephants are killed each year for their tusks?

Do you know what an elephant eats? What he eats depends upon where he lives. In Africa he eats roots, shrubs, the boughs of small trees, and grass. In Asia he eats hay, wild fruit, grass, bamboo shoots, sugar cane, and very juicy plants. Wild elephants may visit the farmer's fields and eat the crops. Sometimes the elephants do not stop with ruining the farmer's field. They may tear down the buildings and even kill the farmer.

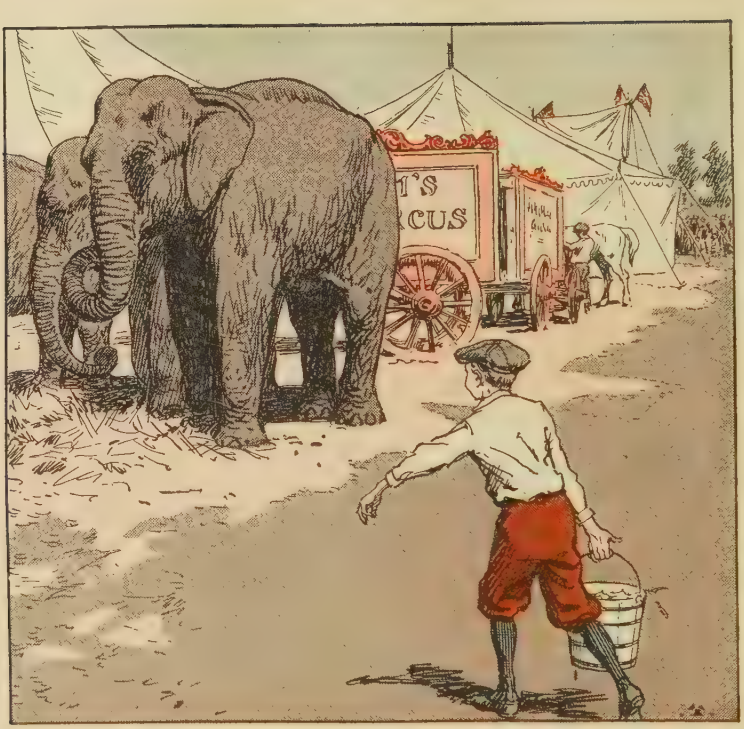
You can imagine that an elephant eats very big meals. In India, where the elephant works for people, he may eat more than six hundred pounds of green fodder in one day. In addition to this he eats twenty or twenty-five pounds of cooked rice.

Elephants are usually kind to one another. They like to be together. They help one another. They have even been known to help one of their herd that has been shot by hunters. There is a large statue in the American Museum of Natural History which shows two elephants helping a wounded one. An elephant is on each side of the injured animal. They are holding him up so that he can go to a safe place.



One of the most interesting things about an elephant is his trunk. A man who knows a great deal about elephants said that the elephant's trunk was "at once a powerful arm and hand, a drinking cup, and a movable nose." It is also a hose, for he uses it to squirt water over himself and into his throat, to drink. He also calls with it when he is angry. He smells and feels with his trunk. He uses it to help balance the heavy loads he often carries.

Elephants are very fond of water. If your father, when he was a boy, ever carried water for the elephants in the circus, he can tell you that they like a great deal of water to drink. They not only like to drink it, but they also like to bathe in it. They take many baths to keep their skins moist. Often when they cannot find water enough to swim



in, they use their trunks to give themselves a shower bath. Elephants are not afraid of deep water, because they are very good swimmers.

The lion is called the King of Beasts. Many hunters say that the elephant should have this honor.

CAN YOU DO THIS?

Find two sentences which prove that all elephants do not eat the same kind of food.

Find two sentences which prove that elephants eat very big meals.

Find one sentence which tells three uses of an elephant's trunk.

Find two sentences which prove that elephants may do a great deal of harm.

Find sentences which prove that elephants like a great deal of water.

Find three sentences which prove that elephants may be an enemy to the farmer.

Find three sentences which prove that elephants help one another.

Find a picture in this book which shows that elephants sometimes help one another.

The lesson about elephants has eight parts. The first part is called "Elephants in the Circus." It begins on page 106 and ends on page 109. We can show that in this way:

Elephants in the Circus, pages 106–109

Can you give the subjects of some of the other parts and tell the page on which each part starts and the page on which it ends?

Elephants in the Circus , pages _____

_____, pages _____

_____, pages _____

_____, pages _____

_____, pages _____

_____, pages _____

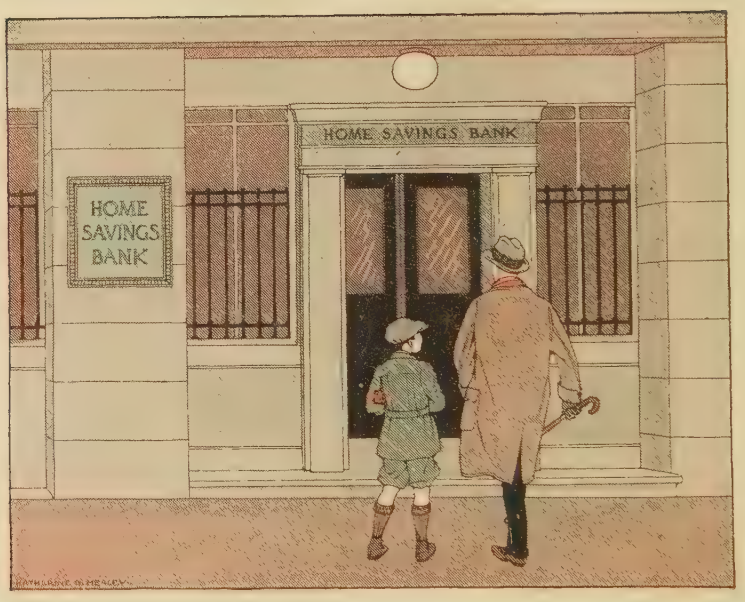
_____, pages _____

OPPOSITES

In each of the following sentences fill the blank with a word which means the opposite of the word in italics, like this:

Coal is *black*, but snow is *white*.

1. Ice is *cold*, but fire is _____.
2. A year is *long*, but a day is _____.
3. A baby is *weak*, but an athlete is _____.
4. Iron is *heavy*, but cotton is _____.
5. Sugar is *sweet*, but a lemon is _____.
6. The ocean is *deep*, but a brook is _____.
7. Rock is *hard*, but dough is _____.
8. Water is *wet*, but flour is _____.
9. A city street is *wide*, but a path is _____.
10. Sand is *fine*, but gravel is _____.



SAVING MONEY

How do you save your money? Some children have savings banks. Do you have a savings bank? What do you do when your bank is full?

This boy has his bank full. He is taking it to the big bank where his father keeps his money. He is starting a "savings account."

Have you any savings in the big bank? Do you know that if you put your money in the big bank, in a little while this money will earn more money? When you take your money out of the bank, you will have more than you put in.

These are some of the things which you can do to get money to put into the bank:

1. Run errands for people.
2. Rake leaves in the autumn.
3. Sell vegetables from your garden.
4. Save old magazines and old rubbers and sell them.
5. Save some of the money which you might spend for candy or for motion-picture shows.
6. Save part of the money which people give you on your birthday or on holidays.

An eight-year-old boy in a certain city earns enough money outside of school hours to buy all his own clothes. He tries every year to save as many dollars as he is years old.

What things have you done to earn money?

TEST

There are six sentences in this lesson which tell you what you can do to get money to put into the bank. Find them.

Which of the six sentences tell about something which you have done?

Which things could you best do in the summer?

Which things could you do at any time of the year?

Which things might a child who lives in a large city find hard to do?

DO THE BIRDS HELP US?

A man once told a story about a town where the people had killed all the birds. There was not a bird left in the trees to make the people happy by its singing. There was not a bird to eat the grasshoppers and the worms.

When the hot weather came, there was no shade at all, because the insects had eaten the leaves from the trees. Of course there were no birds to kill the insects.

There were thousands of caterpillars in the orchards.

Every plant in the gardens had been eaten by the insects.

The farmers did not have any food, because the insects ate all the crops.

Worms dropped down from the trees upon the people as they passed by.

No one wanted to live in this town.

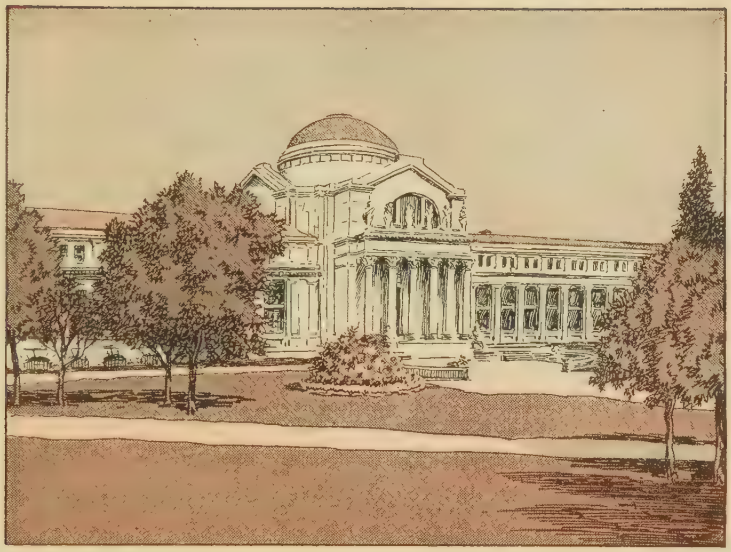
Of course this is only a story, but could it be a true story? Do the birds make our towns much nicer to live in? Do they help to take care of our trees, and of our gardens, and of our farms?

We shall have to find out what the birds eat before we can answer these questions.

How do we know just what the birds eat? There is only one fair way to decide about a bird's food. That is to find out every kind of food which that bird eats all through the year.

Some men who work for the United States government have tried to find out exactly what a bird eats. The way that they find this out is by examining the stomachs of many birds. The next picture shows the building where these men work.

These men have found that most birds



eat some harmful insects. They have found that some birds eat hundreds of insects which damage our crops.

They have found that the food of our warblers is made up almost entirely of harmful insects. They have also found that more than half of the woodpecker's food is made up of insects which harm the trees. They have found that the meadow lark eats very little besides insects.

Men who have studied about the food of birds have written books telling us what some of our birds eat. In these books they tell us that the birds help us in these three ways:

1. Some birds eat insects which are very harmful. Some of these insects injure our crops. Others carry disease. Therefore such birds as warblers, meadow larks, and woodpeckers help us by eating these harmful insects. Blackbirds help by eating grasshoppers. Cuckoos help by eating caterpillars and cutworms.

2. Some birds eat the seeds of weeds which we are always trying to get rid of. The weeds often crowd out plants that furnish us with food.

3. Some birds, such as barn owls, eat mice and rats. Other birds eat rabbits and ground squirrels, which often give us a great deal of trouble.

TEST

This lesson was called "Do the Birds Help Us?" Do you think that question was answered in the lesson?

Without looking back at the lesson, see if you can answer these questions:

1. Why is it a wise thing for our government to hire men to examine the stomachs of birds?

2. What was the most important thing that was found out when the men examined the birds' stomachs?

3. Can you think of any way in which the birds help to feed us?

4. What harmful animals do birds eat?

5. How do birds protect our shade trees?

6. Why is it a help for birds to eat weed seeds?

7. How do the birds earn some of the cherries and other fruit which they eat?

HOW MUCH DO THE BIRDS HELP US?

You may be sure that the crow blackbird is a good helper. He has been known to eat thirty grasshoppers at one meal. A cuckoo once ate fourteen cutworms in a minute. When some men examined the stomach of another cuckoo, they found two hundred and fifty caterpillars. Wasn't that cuckoo a good friend to the farmer?

In the South, where cotton is raised, the birds save the farmers thousands of dollars a year by eating insects called cotton-boll weevils. There are sixty-six kinds of birds that eat boll weevils. A horned lark will eat thirty weevils at one meal.

Every day an insect eats more than he weighs, so you can see that a great many insects working together could destroy

a farmer's whole crop in one day. No wonder the farmer likes to have birds on his farm.

Birds help us by eating harmful animals also. In one year two barn owls ate four hundred mice and twenty rats. They also ate six shrews, which are very much like mice. Don't you think that these bird helpers are worth protecting? Do you know of any ways in which we can protect such useful creatures as the birds?

CAN YOU ANSWER THESE QUESTIONS?

What proof have we that the cuckoo helps us?

What proof have we that the birds in the South help the farmer?

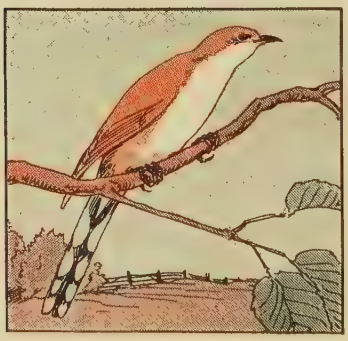
Why is it important for the birds to eat a great many insects?

How is the crow blackbird a good helper?

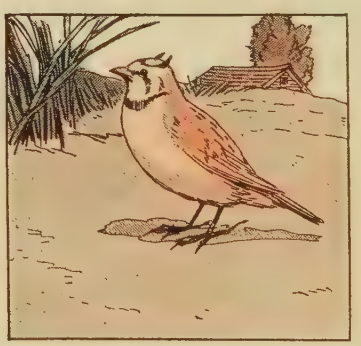
What **birds that ate many insects** did you read about?

What proof have we that the barn owl is the farmer's friend?

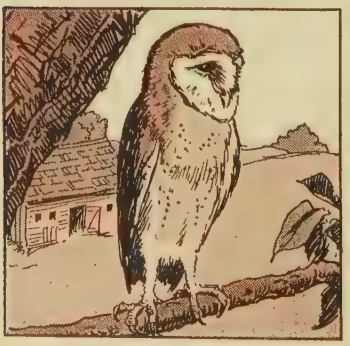
How does each of the birds in these pictures help us?



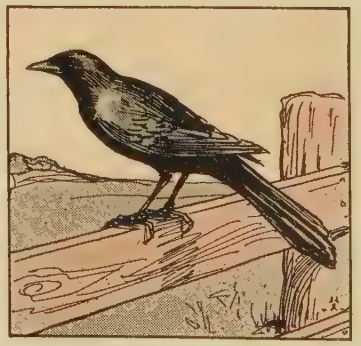
Cuckoo



Horned Lark



Barn Owl



Blackbird

HOW CAN WE PROTECT THE BIRDS?

There are many ways in which boys and girls can help to protect our birds. One way is to tell ignorant people what a help our birds are. Then these people will not be so likely to shoot the birds or to rob their nests.

Boys and girls can see that cats, dogs, and squirrels are not allowed to harm the birds. It may even be necessary to get rid of some cats and squirrels.

In the winter boys and girls can put out food for the birds. In the summer they can put up nesting-places.

Another thing which boys and girls can do is to obey the laws which their state has passed to protect the birds. If their state has no such laws, perhaps some day the boys and girls can help to make some.

What can you do to help protect these birds that help us?

COMPLETE THESE SENTENCES

Boys and girls can help to _____ the birds.

They can tell _____ people how the birds help us.

Cats, _____, and _____ may harm the birds.

In winter boys and girls can put out _____ for the birds.

In _____ they can put up nesting-places.

Laws have been passed to _____ the birds.

Cats and squirrels are the _____ of the birds.

Find out whether or not your _____ has laws to protect the birds.

A MATCHING GAME

druggist	dentist	postman	barber
janitor	artist	tailor	clerk
motorman	engineer	farmer	miner

Match the words at the top of this page with the phrases below:

1. Someone who fills teeth
2. Someone who makes men's clothes
3. Someone who runs a street car
4. Someone who sells medicine
5. Someone who works in a store
6. Someone who paints pictures
7. Someone who cuts hair
8. Someone who works underground
9. Someone who runs a train
10. Someone who carries mail
11. Someone who takes care of buildings
12. Someone who plants grain

THE GRASSHOPPER

HOW THE GRASSHOPPER IS AN ENEMY TO MAN

The grasshopper is one of man's worst enemies because it destroys his crops. Some of the men who spend their lives studying about insects tell us that grasshoppers destroy millions of dollars' worth of crops in the United States each year. They tell us that all the damage done by bears, wolves, or mountain lions does not equal the harm that

is done by grasshoppers. Grasshoppers are one of our worst pests.

Do you know what crops the grasshopper destroys? He eats corn, sugar beets, sorghum, clover, alfalfa, and timothy. He eats all kinds of garden vegetables.

Millions of grasshoppers have been known to fly or crawl across the country in swarms, eating every green plant on the way. They eat even the leaves on trees and the bark on the tender twigs. Young grasshoppers crawl along in a swarm sometimes a mile wide. Swarms of flying grasshoppers may be many miles across. This swarming of grasshoppers over the country is called a grasshopper plague.

On the next page is a picture of what was once a growing garden. Thousands of grasshoppers settled on the garden and ate every green thing in sight.

LEARNING TO GIVE THE TOPIC OF A PARAGRAPH

How many paragraphs are there in the lesson "How the Grasshopper is an Enemy to Man"? Find the first paragraph. Read it. What did that paragraph tell about? Can you tell in a few words what that paragraph told about?

You might say *The grasshopper as a pest.* That would be the topic of the paragraph. Write the topic like this: 1. *The grasshopper as a pest.*

The second paragraph tells something else about the grasshopper. What do you think would be a good topic for this second paragraph? Write the topic. Mark it 2.

Can you make up a topic for the third paragraph? Write that topic. Mark it 3.

What would be a good topic for the fourth paragraph? Write this topic. Mark it 4.

How many topics have you written?

How many things are told about the first topic?

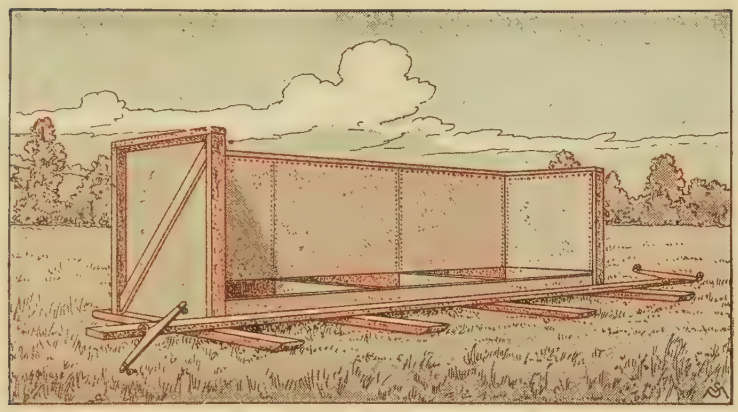
How many things are told about the second topic?

How many things are told about the third topic? about the fourth?

How do you think men try to get rid of grasshoppers? There are four ways in which they do this. First, they catch the insects in the fields by means of a trap; second, they kill the grasshoppers with poisoned bait; third, they destroy the eggs before the young grasshoppers have a chance to hatch; fourth, they protect the birds that eat grasshoppers.

1. *How grasshoppers are caught in traps.*

Grasshoppers are caught in the field by means of a trap like the one in the picture on page 161. This trap is called a hopperdozer. The back and sides of the hopperdozer are covered with cloth or tin. In the bottom are pans filled with some kind of oil.



The hopperdozer is pulled across the field by horses. As it moves along, grasshoppers jump or fly up, hit against the sides or back of the hopperdozer, and fall into the oil. Even a slight touch of this oil will kill a grasshopper. In one large field of alfalfa three hundred bushels of grasshoppers were caught in this way.

2. *How grasshoppers are poisoned.*

The second method of getting rid of grasshoppers is to poison them. The

commonest way is to put poison on bran, wet the bran, and scatter it in the fields where the grasshoppers are. When the grasshoppers eat this poisoned bran, they die. This is one of the cheapest and best ways of getting rid of them.

3. *How the eggs are destroyed.*

The third method of getting rid of this pest is to destroy the grasshopper's eggs. The grasshopper usually lays her eggs in the late part of the summer or in the early part of the fall. The eggs are laid in a hole which the grasshopper makes by thrusting her abdomen into the ground. On the next page is a picture which shows how the grasshopper lays her eggs.

If these eggs are not destroyed, the young grasshoppers will hatch and come out of the ground the following spring.

You can see that if the farmer could find a way to destroy the eggs, he would not need to bother about poison or hopperdozers. The best way to destroy eggs is to plow the ground in the fall. This breaks up the egg masses and prevents most of the eggs from hatching the following spring.

4. *How the birds help.*

All these things that man does would not save his crops if he did not get help from his friends, the birds. Almost all wild birds eat grasshoppers. The largest hawks eat them. Even the little humming bird eats young grasshoppers. Woodpeckers, magpies, quails, blackbirds, meadow larks, crows, owls, wrens, and robins are all useful in destroying grasshoppers. Tame fowls are also fond of grasshoppers. Turkeys, chickens, and geese eat them greedily.

In some parts of the country the farmers have bought pheasants and turned them loose in the fields. Laws have been passed to prevent anyone from shooting pheasants. In a few years the pheasants become very numerous. They save the farmers thousands of dollars by destroying grasshoppers and other insects.

In almost every part of the United States the farmer has to fight the grasshopper. There are a great many different kinds of grasshoppers in the United States. Some kinds are found in only a few places. Others are found in almost every part of this country. A few kinds of grasshoppers do very little harm because they feed almost entirely on weeds, but most grasshoppers are very harmful to the crops in the United States.

CAN YOU COMPLETE THESE SENTENCES?

A _____ is a trap used to catch grasshoppers.

It is filled with _____.

Even a slight touch of this _____ will _____ a grasshopper.

In one field of alfalfa a hopperdozer caught _____ bushels of grasshoppers.

Grasshoppers are often killed by scattering _____ _____ over the fields.

A third way to get rid of _____ is by destroying their _____.

This keeps the eggs from _____ the following _____.

Four wild birds that eat grasshoppers are _____, _____, _____, _____.

Three tame fowls that eat grasshoppers are _____, _____, _____.

In some parts of the country the farmers have bought _____ to catch grasshoppers.

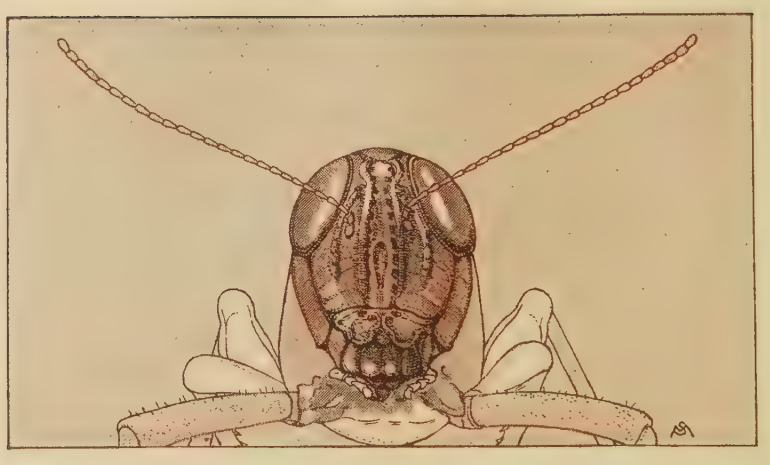
There are only a _____ grasshoppers that do little harm to the crops.

Some kinds of _____ are found in almost _____ part of the _____ _____.

Did you ever try to catch a grasshopper? This is not an easy thing to do. The grasshopper has six legs to help him jump, and a pair of wings to help him fly. His two hind legs are very long and powerful. His other four legs are much shorter. If you could jump as far for your size as a grasshopper can for his size, you could cover a city block in two leaps.

Grasshoppers have hooks on their legs to help them climb. These hooks keep them from slipping when they climb up stalks of grain or hay.

When the grasshopper wants to fly, he gives a great leap. Then he spreads his wings like sails. When he is at rest, the wings fold up very much like a fan. They are protected by wing covers. When



these wing covers are spread out, they look like a second pair of wings.

The grasshopper has five eyes. He has a large eye on each side of his head and three small eyes between his feelers.

The grasshopper's two feelers are the jointed threads you see on the front of his head. These feelers have as many as twenty-five joints in them. The grasshopper hears and touches with these feelers.

Did you ever watch a grasshopper eat? His mouth and jaws are very interesting. If you want to see how a grasshopper eats, catch one and put him into a glass jar. Leave him there a day so that he will get hungry. Then feed him some blades of tender grass or some juicy stalks of grain. Watch his jaws. They do not move up and down like ours, but back and forth from side to side.

People have studied grasshoppers a great deal, not only because they wish to find out how to get rid of them, but also because the grasshopper is a remarkable insect. Our government has published a very interesting article about the grasshopper. Perhaps you can find it at the public library.

MAKING UP QUESTIONS

How many paragraphs are there in the lesson "The Structure of the Grasshopper"? Each paragraph answers a question that you might ask about the structure of the grasshopper.

The first paragraph answers the question *How are grasshoppers able to jump so far?* Read the first paragraph. What is the answer to the question?

The second paragraph answers the question *How can grasshoppers climb so easily?* Read that paragraph.

Can you make up the question which the third paragraph answers?

What question does the fourth paragraph answer?

Try to make up the question which each paragraph answers. You should have seven questions.

TEST ON HOLIDAYS AND SPECIAL DAYS

1. The first day of January is _____ _____ _____.
2. _____ birthday is on February 22.
3. February 12 is _____ birthday.
4. February 14 is _____ Day.
5. The first day of April is _____ _____ Day.
6. _____ Day, or _____ Day, comes on May 30.
7. The Fourth of July is _____ Day.
8. The first Monday in September is _____ Day.
9. November 11 is _____ Day.
10. _____ Day is usually the last Thursday in November.
11. December 25 is _____ Day.
12. October 31 is _____.

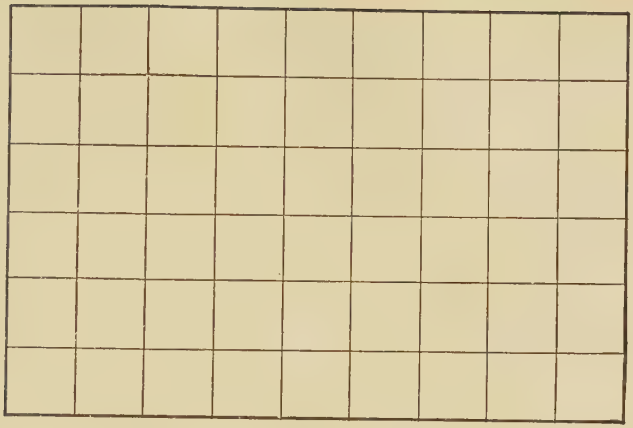
MAKING A DRILL CARD

Have you ever tried to learn the multiplication table? Is it hard for you to remember it? Here is something that you can make to help you review the multiplication table.

Take a stiff sheet of paper which is six inches wide and nine inches long. A piece of cardboard is the best thing to use.

With your ruler divide each of the short sides into inches. For every inch put a mark with your pencil. Divide each of the long sides into inches in the same way.

Using the marks to guide you, draw lines so that your paper will be divided into inch squares. How many inch squares do you have? You should have fifty-four. Your paper should look like the first picture on the next page.



Put numbers in the squares like this:

9 5	3 4	6 6	9 2	1 0	3 2	3 8	9 9	6 0
7 1	9 6	4 4	7 0	2 2	6 2	3 3	9 7	3 1
4 6	5 8	4 1	7 5	4 0	7 8	5 0	8 8	7 4
1 1	3 6	8 4	5 6	6 8	6 1	7 7	9 1	2 5
5 1	2 4	5 3	2 7	9 8	3 9	1 8	9 0	5 5
7 6	3 7	3 0	4 5	2 1	8 0	4 9	2 8	2 0

The first square will say 5×9.
The second square will say 4×3.
What will the third square say?

Take another sheet of paper just like the first one. Divide it into inch squares exactly as you did the first sheet. In each square write the answer to match the squares of the first card. Your first square should contain the number 45, because 5×9 is 45. Your second square should contain the number 12, because 4×3 is 12. What should your third square contain?

Your second paper should look like this:

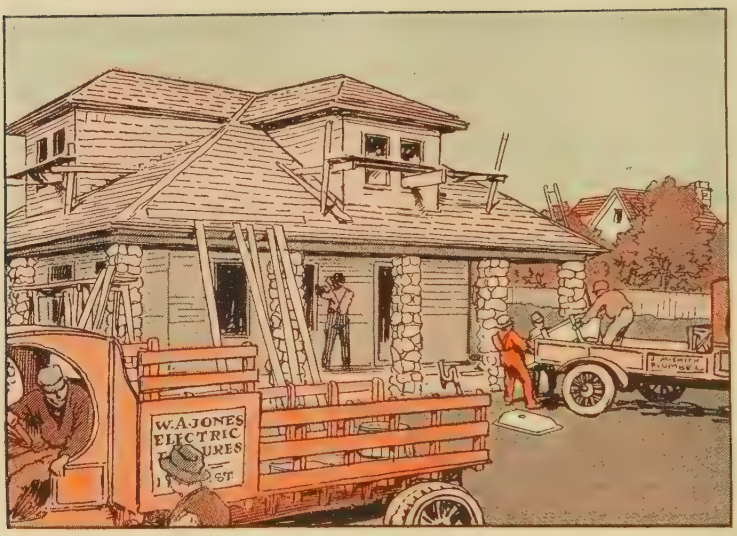
45	12	36	18	0	6	24	81	0
7	54	16	0	4	12	9	63	3
24	40	4	35	0	56	0	64	28
1	18	32	30	48	6	49	9	10
5	8	15	14	72	27	8	0	25
42	21	0	20	2	0	36	16	0

Now, with a pair of scissors, cut the second paper into squares. There will be a number on each square. Each of these squares will match a square on your first sheet. Lay the square $\boxed{45}$ upon the square $\boxed{\frac{9}{5}}$. What square will you lay upon the square $\boxed{\frac{3}{4}}$? What square will you lay upon the square $\boxed{\frac{6}{6}}$? What square will you lay upon $\boxed{\frac{9}{2}}$? Now see if you can place each little square in its correct place.

Save the little squares in an envelope to use at another time. Put them away with the first sheet.

If you will practice matching the squares for a few minutes every day, you will soon know the multiplication table very well.

It is fun to run a race with someone in matching these squares. The one who first gets all his squares matched wins.



OCCUPATIONS

Have you ever watched a house that was being built? It takes a great many men to build a house.

After the cellar is dug, the mason lays the foundation. Then the carpenters come to do the carpentering. The house is wired for lights by the electrician. The plasterer plasters the walls. The plumber puts in the kitchen sink and the other

plumbing fixtures. At last, after this work is done the painter comes to paint the home. Other men finish the woodwork and paper or decorate the walls.

Perhaps your father is a carpenter or a painter. What your father does to earn a living for himself and his family is called his occupation. Do you know what your father's occupation is?

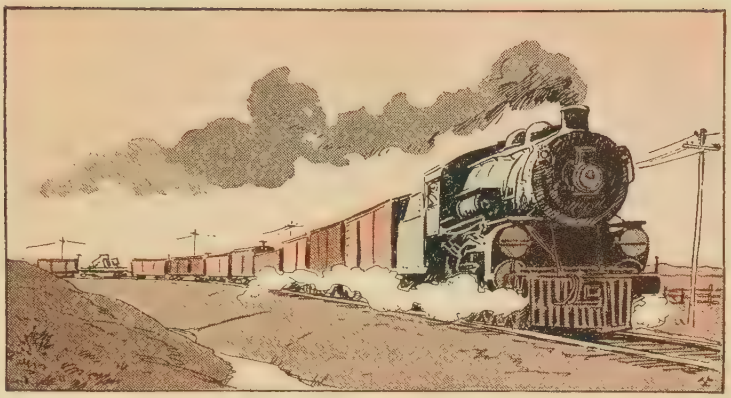
There are many kinds of occupations. Some occupations furnish us with our food. The farmer grows grain, fruit, and vegetables. He raises chickens and cattle. We call his occupation farming. The farmer sells his products. Sometimes he hauls his grain to an elevator. From there it is sent to mills where it is made into flour and cereals. The farmer often sells his milk to a dairy. At the dairy the milk is bottled or made into butter and cheese.

Sometimes the farmer sends his cattle, sheep, or hogs to the big stockyards and packing-houses in Kansas City or Chicago. Here they are prepared for market.

The farmer raises most of our food, but we buy it from the grocer, the dairyman, and the butcher. Can you think of any other occupations that provide us with food?

Many men and women work in factories. The men who own the factories are called manufacturers. In the factories such things as cloth, shoes, clothes, furniture, and automobiles are made. What are some of the occupations of the people who work in factories?

The manufacturers ship their products all over the world. It takes a great many men to carry these things to different states and countries. Some men drive



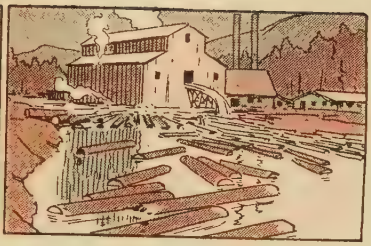
great auto-trucks which carry the products. Some sail large ships. Other men run the trains. It takes many men to build and run the trains in our country. Do you know anyone who helps to carry manufactured things from place to place?

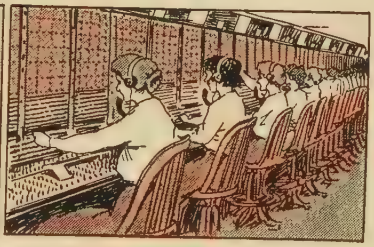
There are some occupations that are called professions. The minister, the doctor, the lawyer, the dentist, and the teacher have professions. What does the doctor do? What does the lawyer do? What do the others do?

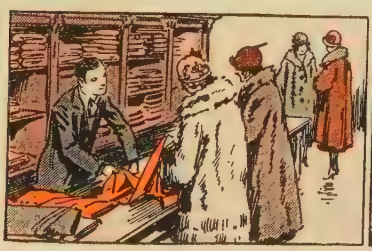
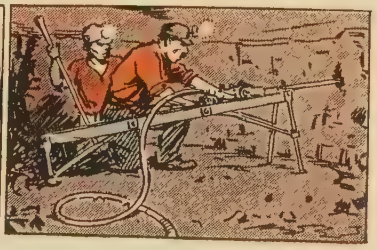
The people who act on the stage or in the motion pictures work to amuse us. Do you know of others who work to amuse us?

People spend many years learning how to do some kinds of work. A machinist often spends several years in learning his trade. A doctor goes to school many years studying for his profession. However, there are some kinds of work for which people do not need to study. Some of these kinds of work are keeping buildings clean, digging sewers, driving delivery wagons, or working on the streets.

There are many kinds of occupations that this lesson does not mention. Look at the picture on the opposite page to see if it shows any occupations which this lesson has not told you about.





A LIST TO MAKE

On the next page is a list of people who have different kinds of occupations. Arrange the words from the list in four columns.

In the first column put the people who help only in building our houses.

In the second column put the people who help only to furnish our food.

In the third column put the people who help in carrying things from place to place.

In the fourth column put the people who have a profession.

Number the columns 1, 2, 3, 4.

LIST OF PEOPLE

truck driver	farmer
carpenter	miller
electrician	plumber
engineer	painter
meat packer	actor
plasterer	sailor
conductor	dairyman
preacher	lawyer
butcher	mason
doctor	teacher
grocer	author
dentist	baker

Is your father's occupation given in this list?

Can you add any words to this list?

Put a check like this (X) beside each word which is mentioned in the lesson on occupations.

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LEARNING TO USE THE INDEX

If you want to find material quickly in a book, you should use the index. The index is found at the back of a book. It is put into the book to help people in finding material in the book. Does this book have an index? On the opposite page are words taken from the index of this book. Read all the words on page 184.

Point to the words beginning with *A*. How many words are there beginning with *B*? How many words are there beginning with *C*? Find the words beginning with *F*. What words will come after the words beginning with *F*? How are the words in an index arranged?

See how quickly you can find these words on page 184: *moth, owls, kettle, wings, quarter, elm, yard, bank, jar,*

vacation, alphabet, cocoon, stalks, United States, playground, feelers, dandelions, zero, fleas.

The words in an index have numbers after them. The number tells the page on which you will find something about the subject named.

Find the word *caves.* What number is after *caves*? Then on page 195 in this reader you will find something about *caves.*

Find the word *thermometer.* The numbers after *thermometer* will be written like this: 38–40. This means that pages 38 to 40 in this reader will tell about the thermometer.

Find the following words on the Index Page. What page in the reader will tell about each thing?

howdah	ivory	lye	lanthorns	caves
torches	gong	fleas	rogues	seeds

The index at the back of the book is arranged like page 184. Do you think that you could now find words in the index at the back of the book?

SOMETHING TO DO

Take a sheet of paper. Copy the words below. Find each word in the index at the back of the book. Put after each word the pages upon which the index shows that you can find something about that subject. Write each word like this:

fowls, 154

oranges	blisters
Daily Events	fleas
herd	prunes
wings	mosquito
alphabet	Kentucky
sticktight	vine
yard	lye

WHAT ADVICE SHOULD YOU GIVE?

What advice about poison ivy should you give to the following people:

1. Someone who is going to spend a day in the woods.
2. Someone who has accidentally picked a poison-ivy leaf.
3. Someone who says he is afraid to touch a Virginia-creeper vine.
4. Someone who is afraid of every vine he sees.
5. Someone who has poison ivy growing in his yard.
6. Someone who has blisters on his skin from ivy poisoning.
7. Someone who says he lives in a state where there is no poison ivy.
8. Someone who washes with toilet soap after he has been near a poison-ivy plant.

LEARNING TO FIND MATERIAL WHICH ANSWERS A QUESTION

One morning, as some children were going to school, they found a bat. Some of them did not know what it was. As soon as they reached school they asked their teacher questions about the bat. The teacher told them that they could find the answers to these questions for themselves. Each child chose one question to look up about the bat. When the answers were brought in they were told to the whole class.

On the next page are the questions that the children asked. If you were to make a report to your class, which question should you choose? Try to find the answer to your question in the story "The Little Brown Bat." You will have a chance to report your answer to the

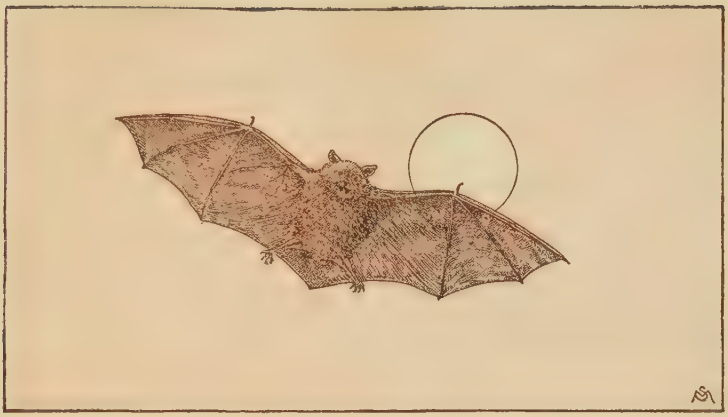
class. See how much you can find about your question.

Here are the questions which the children asked:

1. Why don't bats fly against things in the dark?
2. Can bats see?
3. Is the bat a kind of bird?
4. What do bats eat?
5. How do bats get their food?
6. Are there any big bats?
7. How does the mother bat take care of her babies?
8. Are bats dirty?
9. Where do bats live?

Did the children ask any questions which are not answered in the story of "The Little Brown Bat"?

Is anything about the bat told in this story which the children did not ask?



THE LITTLE BROWN BAT

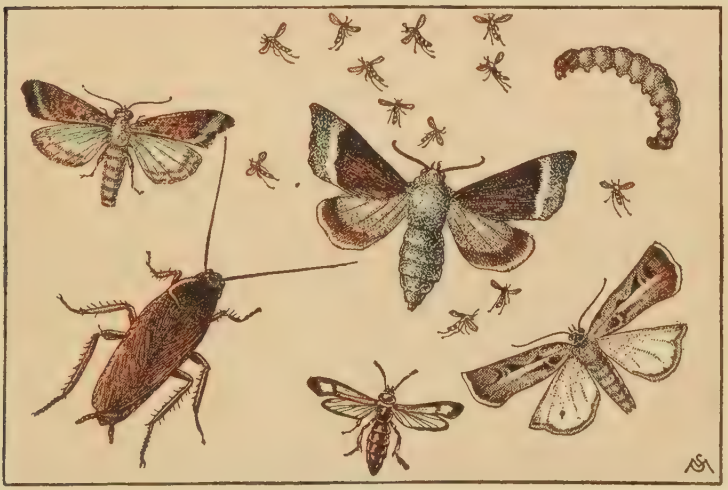
How the bat looks. This little animal in the picture is one of the queerest animals in the world. He looks like a little mouse with wings. The bones in his wings look like a three-fingered hand with a tiny thumb sticking out. The little brown bat is about three inches long. Its body is covered with a soft fur.

Have you ever heard anyone say, "blind as a bat"? There is no truth in that saying, because bats have very sharp eyes.

How the bat can see in the dark. The bat's wings are wonderful. In them are nerves which feel every tiny motion of the air. These nerves tell the bat when it is near any object. That is why bats can fly swiftly through trees at night without touching a twig.

A man tried a very interesting experiment with bats. He sealed the eyes of some bats with wax so that they could not see. In a certain room he stretched many wires back and forth in every direction. The spaces between the wires were very small. Then he turned the bats loose in that room. They flew to and fro. Although they could not see, not one of the bats struck a wire. When they came to a place where the wires were close together, they drew in their wings as they flew, and slipped through the openings unharmed.

How the bat catches insects. With his little pink mouth wide open, the bat flies through the air. As he flies along he scoops into his mouth the insects that are in his path. Sometimes in his flight he snatches insects from flowers or twigs. He uses the thin skin between his hind legs and tail for a net. As he flies, he scoops insects into that net. Then he reaches down and eats them. Isn't that an easy way to get a supper?



The kinds of insects bats eat. Bats are our friends. They eat hundreds of harmful insects, such as moths and cockroaches. One insect which they eat by the hundreds is very harmful to man. This insect is the mosquito, which carries the germs of a very bad fever called malaria. In the South, where there is a great deal of malaria, the bats are protected. Men build places for them to stay. These places are called bat roosts.

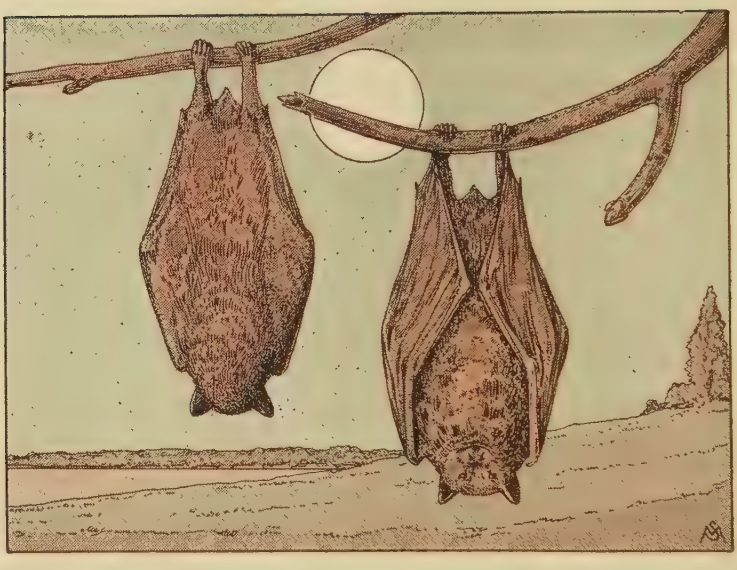
Most of the insects which the bat eats hunt for their food at night. That is why you will see bats in the evening. They

come out every night to search for these insects which are flying or crawling about.

How bats keep clean. Some people think bats are dirty animals, but they are not. In fact, they are very clean. You should see a bat wash his wings. He takes hold of a wing with his sharp little teeth and pulls and stretches and licks it until you would think it would break. He washes his face with the front part of his wing. He even washes his hind feet. He licks them until they are clean.

Where bats live. Bats like to live in caves. If they cannot find a cave, they will creep into a dark corner of a barn or into a hollow tree. Bats do not make nests. Even for the little baby bats the mother bat does not make a nest.

How the mother bat cares for her young. What do you think the mother bat does with her babies when she flies



in search of food? She takes them with her. They cling to her body, and away they all go through the air. When the babies are about five weeks old, they are too big for her to carry with her. Then she hangs them up on the bat roost or on a twig and flies away to search for insects. She feeds the little bats until they are big enough to take care of themselves.

How the bat sleeps. How should you like to sleep hanging by your toes? That is the way the bat sleeps. He has long, sharp claws on his tiny feet. When he is ready to go to sleep, he hangs himself up by these claws and shuts his eyes. Sometimes he hangs by one toe and the hook on his wing.

Kinds of bats. There are many kinds of bats. Some are little and some are big. In one country there are bats that have wings which measure five feet from tip to tip.

Our common bats are small. The most common of all is the little brown bat of which you have just read. You can see its picture on page 191.

YES OR NO

1. Bats are dirty animals.
2. Bats cannot fly very well in the dark.
3. Bats eat harmful insects.
4. Bats are blind.
5. Bats are protected in the South.
6. Bats live only in caves.
7. The mother bat does not make a nest.
8. There is only one kind of bat.
9. The little brown bat usually sleeps hanging by his toes.
10. The nerves in a bat's wings tell him when he is near an object.
11. The mother bat usually takes her babies with her when she goes in search of food.
12. Baby bats are able to take care of themselves as soon as they are born.

HOW WELL DO YOU REMEMBER?

Without looking back at the lesson, see how many of these blanks you can fill in without making a mistake.

The _____ in the bat's wings tell him when he is near an object.

As the bat flies, it scoops _____ into its mouth.

Some of the insects which bats eat are _____, _____, and _____.

In the South men build _____ _____ for the bats.

Bats will live in a _____ _____ or in a _____.

The mother bat carries her babies until they are _____ _____ old.

The little brown bat flies at _____ in search of _____.

The most common bat is the _____ _____ _____.

ACCIDENTS

Here are a number of questions about accidents. Read these questions silently. Decide how you would answer each one. Be able to give a reason for each answer.

1. Should you play with matches?
2. Should you play near a fire?
3. Why should you not climb electric-light poles?
4. Should you put a wire screen before an open fireplace?
5. Why should you look both ways before you cross the street?
6. Why should you not play where men are digging ditches?
7. Why should you not play where houses, stores, or other buildings are being built?
8. Should you decorate a Christmas tree with lighted candles?

9. Why should you not pick up a lighted firecracker to see why it did not go off?

10. Why should you not leave pails, pans, or dishes of hot water near the edge of a table or a stove?

11. Should you keep pins, knives, and scissors away from little children?

12. What should you do if you cut your hand?

13. What should you do before crossing a car track?

14. Should you roller-skate in the street?

15. Why should you not throw banana peelings on the sidewalk?

16. If your hat blows into the street, what should you do before you go after it?

17. If the baby's dress should catch fire, what should you do?

18. If something gets into your eye, what should you do?

19. Why should you not play where buildings are being torn down?

20. Why should you not start a fire with gasoline?

21. Should you run with sharp-pointed objects in your hand?

22. Why should you not hold pins or tacks in your mouth?

23. Should you play in the street?

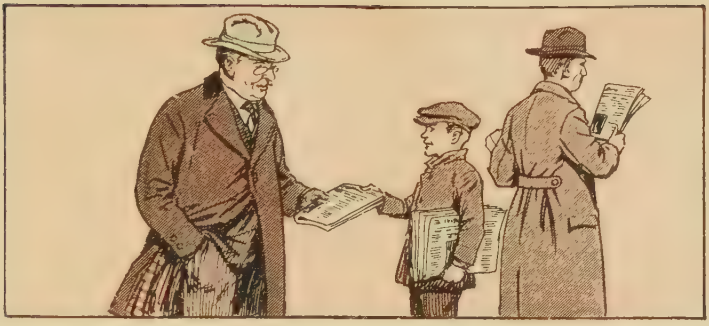
24. Should you get off a car while it is still in motion?

25. Why should you not touch wires hanging from trees or poles?

26. Why should you never point a gun at anyone?

27. Should you turn off electric lights when your hands are wet?

28. Should you put money in your mouth?



THE NEWSPAPER

Do you get a newspaper every day in your home? Perhaps you get one only once a week.

There are daily and weekly papers. What do you think a daily newspaper is? What is a weekly newspaper? When did we begin to have newspapers?

THE FIRST NEWSPAPERS

1. The first newspapers that we know about were published a long time ago. They were published far away from here, in Rome and in China.

2. We know what the Romans called their newspaper. They called it *Daily Events*. This paper was written instead of printed. It told about the games and elections. If there had been a battle or a fire, the newspaper told about it. Only

a few people got copies of *Daily Events*. People who could not afford to buy the paper read the copy which was posted in some public place. In this way the Romans found out what was happening.

3. We are not sure what the Chinese called their paper. Travelers who saw it called it the *Peking Gazette*. It was first published long before our country was discovered. In this newspaper the Chinese read what their emperor wanted to tell them.

4. The first newspaper in England was not at all like our newspapers to-day. It was not nearly so large. It was just a sheet of paper folded down the middle. Sometimes the sheet of paper was folded in a different way in order to make a little book. This was called a news-book.

5. Some men made their living by writing news-letters. These were simply

letters full of news. These kinds of newspapers were not published every day or every week as our newspapers are to-day. They were published only once in a while.

6. Our newspapers to-day are very different from these first newspapers. They are larger than the first newspapers. They do not cost so much. They tell us a great deal more news than the first newspapers did.

CHOOSING QUESTIONS

Here are six questions about the first newspapers:

1. What do we know about the first newspapers in England?
2. What were the early news-letters?
3. What do we know of the early Roman newspaper?

4. What do we know of the early Chinese newspaper?

5. Where were the first newspapers published?

6. How are our newspapers to-day different from those of long ago?

There are six paragraphs in the lesson "The First Newspapers." Point to each paragraph. Each paragraph answers one question.

Read each paragraph and find the question which it answers.

Paragraph 1 answers question _____.
Paragraph 2 answers question _____.
Paragraph 3 answers question _____.
Paragraph 4 answers question _____.
Paragraph 5 answers question _____.
Paragraph 6 answers question _____.

WHAT THE NEWSPAPER TELLS US

The newspaper tells us what is happening in our town. It tells us about the people who have gone away for a visit. It tells us about the people who have come to our town for a visit. It also tells of those who have come on business. It tells us about the improvements that are being made in our town. It always tells what is going on at the churches or in the theaters. It also tells us the society news. The news about our town is called local news.

The newspaper tells us what is happening in our country. It tells us about our President in Washington. When there is a flood or a big fire, the newspaper tells us about it.

The newspaper tells us what is happening all over the world. When there

was an earthquake and a great fire in Japan, the newspapers told us about it. During the World War we read about the battles in the papers.

Why do we want to know what is happening in our country and all over the world?

The newspaper tells us what kind of weather we are going to have. It tells us whether the next day is likely to be cloudy or fair. It tells us whether it is likely to be warm or cold.

Why does the railroad man want to know what the weather is going to be like?

Why does the farmer want to know about to-morrow's weather?

Why might you want to know what the weather is to be?

When you go home after school, see if you can find the weather report in

Take a trip to
Tommie Tucker's Toyland
For games, puzzles, and books, dolls and dolls' clothes, doll-houses and doll-furniture, mechanical toys, and every other kind of toy
The best toys for girls and boys

the newspaper. In many newspapers this report is on the first page.

Look at the picture at the top of this page. Have you ever seen anything like that in a newspaper? It is called an advertisement.

Stores advertise the things they have to sell. From the advertisements we learn where to buy such things as food, clothing, and furniture. We also find out where to go to hear good music or to see a play.

Most newspapers have at least one page of small advertisements. These small advertisements are usually two or three lines long. People advertise for help or for work. They advertise houses for rent or for sale. Sometimes farmers advertise berries, eggs, or other articles for sale. It costs a great deal to put a large advertisement in a newspaper. The small advertisements do not cost very much.

Sometimes in the newspapers there are pictures of interesting things that have happened. The picture on the next page was taken from a newspaper. It is a picture of a dog that lost its life while saving the life of another dog.

Are there any other kinds of pictures in the newspaper besides pictures of things that have happened? What pictures have you seen in the newspaper?

There are other things in the newspaper which this lesson has not told you about. Can you tell about other things which are found in newspapers?

SOMETHING TO FIND

The lesson which you have just read tells about four kinds of things to be found in newspapers. Following is an

outline of what the lesson tells. Read the outline carefully.

I. The news
   A. Local news
   B. News of our country
   C. World news
II. The weather
III. Advertisements
   A. Large advertisements
   B. Small advertisements
IV. Pictures
   A. Of things which have happened
   B. Of other things

Find the paragraph in the lesson which tells about the local news. Find the paragraph which tells about the news of our country. Find the paragraph which tells about the world news.

Find all the paragraphs which tell about the weather. How many are there?

Find the paragraphs which tell about the large advertisements. Find the paragraph which tells about the small advertisements.

Find the paragraphs which tell about the pictures in the newspapers.

SOMETHING TO DO

Bring a newspaper from home. Try to find every one of the things which are told about in this lesson. As you find these things in the newspaper, cut them out.

On each clipping put the number of the topic which tells what it is about. If you cut out an advertisement, put *III* on it, because *III* in your outline was about advertisements. Put *I* on items of news. Put *II* on weather items. Put *IV* on pictures.

WHICH ANSWER?

On the next page are twelve questions. The answers to the questions are on this page. Match the questions with the correct answers.

1. Carry an umbrella and wear rubbers.
2. Because they eat the farmer's crops.
3. Because it eats mosquitoes.
4. Turn on the electric light.
5. Build bird houses.
6. Take care of your clothes.
7. Never read facing the light.
8. Because they are disease carriers.
9. Turn in a fire alarm.
10. Because it is Memorial Day, and on that day we have a holiday.
11. So that your writing may be read easily.
12. Because it contains a food that helps to build up your bones.

QUESTIONS

1. Why should we kill rats?
2. Why should you write carefully?
3. Why is milk good for you?
4. How can we help to protect our eyes?
5. What should you do if your house should catch fire?
6. What is one way to help your father and mother save money?
7. Why do we destroy grasshoppers?
8. Why is school closed on the thirtieth of May?
9. What should we do to protect ourselves from the rain?
10. What can we do to attract the birds to our homes?
11. Why is the bat a useful creature?
12. What can we do to make a dark room light?

DO YOU KNOW THIS?

One day Charles came home late from school. His father asked him why he was late. Charles told his father that he had stayed to clean up some ink that he had spilled on the floor. "I can't see why I have to be so careful of the school floor," the little boy said; "the schoolhouse doesn't belong to anyone."

His father said: "That is where you are mistaken, my son. The school building is partly yours. It is a public building, and everyone has a share in public buildings." Then Charles's father talked to him about public buildings and what children can do to help to take care of them.

The next lesson tells you the things that Charles's father told him.

PUBLIC BUILDINGS

1. Last year there were more than twenty million children in school in the United States. Wherever there are children who are old enough to go to school, schoolhouses must be built. It has cost many millions of dollars to build all the schoolhouses that are used in this country. It also costs a great deal to buy desks, bookcases, and other furniture for them.

2. Who do you think pays for all these things? All grown-up people are expected

to pay their share. Your father and mother help to pay.

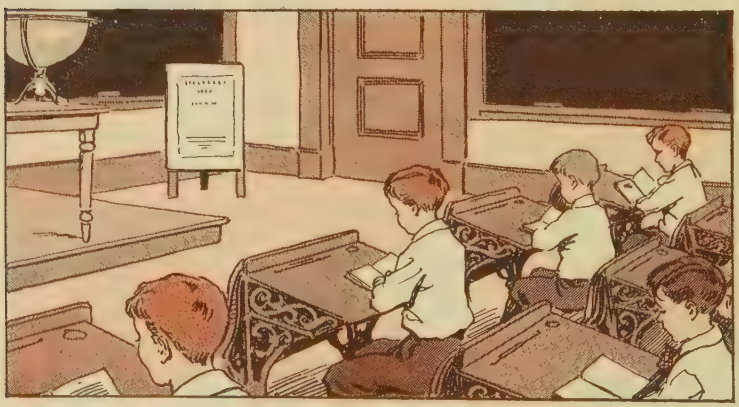
3. No one person owns these buildings. Because the schools belong to us all, we say they are public buildings.

4. Although you may not pay money to build and care for your schoolhouse, you can help to keep it in good order. No matter how hard the janitor tries to keep the school building clean, it will not look well unless you do your part. What are some of the things which you can do to help keep your school neat and attractive and in good condition?

5. First, you can help keep the floors clean. You can do this in many ways. Be sure that your shoes are clean before you enter the building. It is just as important not to carry mud into the schoolhouse as it is not to carry mud into your own home. Pick up any paper

or crayon which has fallen to the floor. When you write at the blackboard, be careful not to drop your crayon. Do you think the children in the room in this picture helped to keep their room neat?

6. Second, you can be careful not to mark the furniture or any part of the building. Never write or draw pictures on the walls. Be careful not to cut or scratch the desks, chairs, or any part of the woodwork. You should take just as good care of school furniture as you do of the furniture in your own home.



7. Third, you can help keep the school yard attractive. If there is a lawn, try to keep it beautiful. Do not spoil it by making a path across it. Never throw paper bags, apple cores, gum wrappers, or fruit peelings on the ground. When you are playing, try not to run against the shrubs or over the flowers. Never cut or bruise the bark of the trees.

8. Fourth, you can be careful not to break windows. Often windows are broken by throwing stones or balls against them. Many windows are broken by children who play around the schoolhouse in vacation. Children who are allowed to play on the school playground in vacation should be careful not to injure anything.

9. There are other public places besides your school which you can help to take care of. What other buildings besides

schools belong to the public? Can you name other things besides buildings which belong to the public? Do parks belong to the public? What things in the picture below belong to the public?

GIVING THE SUBJECT OF A PARAGRAPH

This lesson about public buildings has nine paragraphs in it. Point to the first paragraph. Point to the last paragraph. Point to the seventh paragraph. Point to the fifth paragraph. Point to the eighth paragraph.

Can you think of a good subject for the first paragraph? *Why our school buildings cost so much* is a good subject for that paragraph.

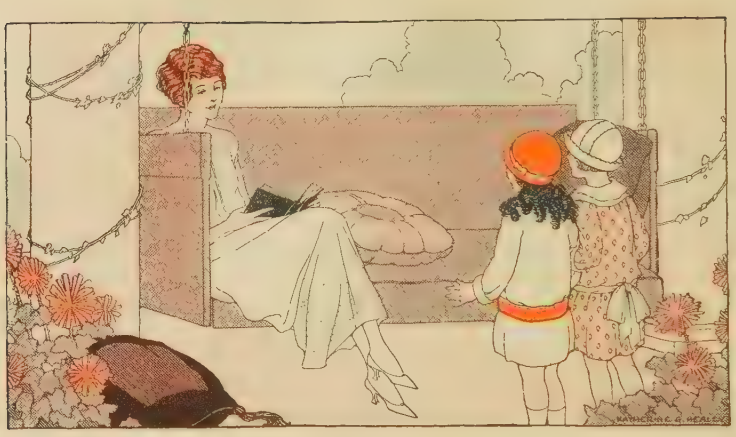
What would be a good subject for the second paragraph?

Think of a good subject for the third paragraph.

Try to think of a good subject for each paragraph in the lesson.

Be sure that your subjects are topics and not questions.

Write your subjects on paper.



MAKING INTRODUCTIONS

Did you ever take a friend home from school with you? Did you introduce this friend to your mother?

The correct way to introduce your friend is to say, "Mother, this is my friend, Esther Bishop." Or you may say, "Mother, this is Esther Bishop, a schoolmate of mine."

Sometime you may take a friend with you to visit your school. You should introduce your friend to the teacher.

You should say, "Miss Garnett, this is my friend, Bobby Mitchell." If Bobby does not know the children at school, you should introduce him to them. You might say, "Boys, this is Bobby Mitchell."

When a new child comes to your school, you should see that this child is introduced to the other children.

Perhaps your teacher may visit your home. You should introduce her to your mother and father. You should say, "Mother, this is my teacher, Miss Garnett." "Miss Garnett, this is my father."

If you are introduced to someone you might say, "How do you do?" or, "I am glad to meet you." Never say, "Glad to meet you."

When you are introduced to older persons, do not offer to shake hands unless they offer first. If you do shake hands, be careful to offer your right hand.

Always rise when you are introduced to an older person. A boy should rise when he is introduced to a girl or a woman.

Do you think that you can now make an introduction correctly?

1. Play that you are a mother who has come to visit the school. Ask someone to introduce you to the teacher.

2. Choose a boy and a girl. Pretend that the girl is your mother. Introduce the boy to her.

3. Choose a boy and a girl. Pretend that the girl is your teacher, who has come to call at your home. Pretend that the boy is your father. Introduce your father to your teacher.

CAN YOU GUESS THESE RIDDLES?

I am a month. Sometimes I bring ice, snow, and cold winds. I bring the New Year too. Which month am I?

I am the last month in the year. I always bring Santa Claus. Some children like me best of all the months. Which month am I?

I come in the winter. I bring the birthdays of Washington and Lincoln. I bring St. Valentine's Day too. Which month am I?

I come in the summer. Boys and girls are glad to see me. I am very hot. The flags wave on my fourth day. What is my name?

I am an autumn month. When I come, many of the trees in the North begin to shed their leaves. School often begins when I come. Which month am I?

OUR ENEMY THE RAT

Part I

There are no animals that people dislike so much as they do rats. Why do people dislike rats? There are three reasons why we should dislike them: first, they are filthy; second, they spread disease; third, they destroy property. People who know a great deal about rats say that they have not a single good habit.

IN WHAT WAYS ARE RATS FILTHY?

Rats are filthy in every way. They live in dirty places. The more tumble-down a house is, the better rats seem to like it. Sometimes they even live in old sewers. They eat everything. Rats that live in houses find some of their food in garbage cans. They come straight from the garbage can to the kitchen, or to the food in the bakery, grocery, or meat market. Their fur is never clean. It usually has fleas in it.

HOW DO RATS SPREAD DISEASE?

It is not strange that such filthy animals should spread disease. Rats carry many disease germs in the filth on their bodies. We may catch some of these diseases by eating food which rats have touched. One dreadful disease may be

carried by the fleas which live in the fur of rats. Some of the most terrible diseases are spread by rats.

TEST I

1. Give three reasons why people dislike rats.
2. What do people who know a great deal about rats say about their habits?
3. What are three ways in which rats are filthy?
4. Why should we keep garbage cans covered?
5. Why should we keep our food where rats cannot touch it?
6. What are two ways in which rats spread disease?
7. What do rats eat?

Few pests destroy more property than do rats. They are one of the farmer's worst enemies. They sometimes dig up the corn just after it is planted. Then the farmer has to plant his corn again. They sometimes eat the corn when it is growing. They are very active climbers and will climb up stalks and gnaw both the stalks and the ears of corn.

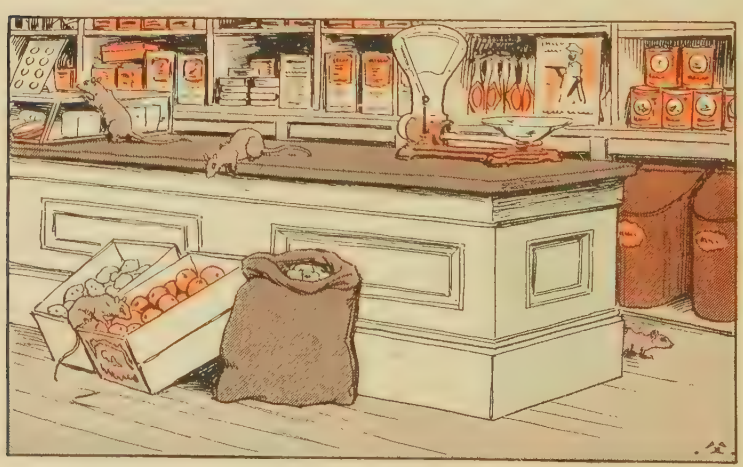
But they do the most damage after the farmer has stored his corn or other grain. Then the rats eat bushels of it. A farmer said that one year the rats destroyed one fourth of his corn. A single rat may eat fifty pounds of grain in a year and destroy much more.

Rats destroy a great deal of food in stores. The storekeeper has to work very hard to keep rats away from the

food which he has to sell. In buildings where there are rats, one rat may destroy five dollars' worth of food every year.

Rats destroy large amounts of food in ships. Often a single ship will have four or five hundred rats in it. Ships which carry food almost always lose a part of the food because of rats.

People who raise chickens find that rats are among their worst enemies. No other animal destroys so many chickens



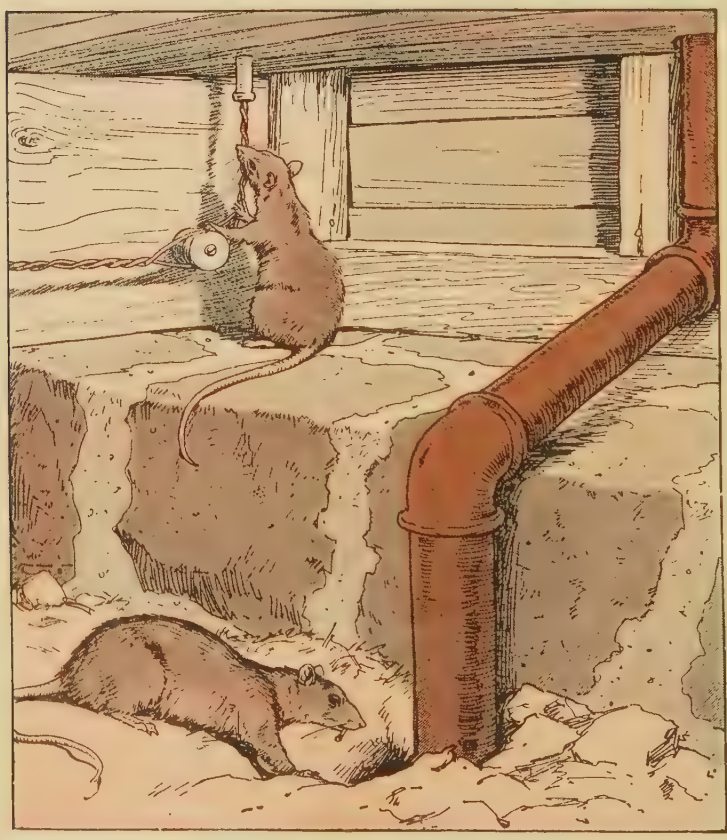
and eggs. If there are many rats around a barn or a chicken house, they will sometimes kill many of the young chickens. Rats also eat eggs. They either eat the eggs where they find them or carry them to their nests.

However, it is not only food that rats destroy. They gnaw holes in clothes and in rugs. They gnaw holes in furniture and in the floors of houses.

Sometimes rats set buildings on fire. They gnaw the heads of matches and in that way set fire to their nests. Since these nests usually have bits of paper in them, they are easily set on fire.

Sometimes as a rat is carrying a match to his nest, he scratches the head of the match against a stone or a wall. This lights the match. If the lighted match drops where there are pieces of paper or small bits of wood, a fire is almost

sure to be started. Rats have even been known to gnaw the covering from the outside of an electric wire. If this uncovered wire touches anything made of wood, it may start a fire.



TEST II

CAN YOU DO THIS?

1. Find two sentences which tell how rats destroy corn in the field.

2. Find one sentence which tells how much grain one rat may eat in a year.

3. Find one sentence which tells why the storekeeper hates rats.

4. Find one sentence which tells how many rats one ship may carry.

5. Find a sentence which tells in what two ways rats make trouble for people who raise chickens.

6. Find one sentence which tells why the rat's nest is easily set on fire.

7. Find a sentence which tells when rats do the most damage to corn.

8. Find three sentences which tell what damage rats do by gnawing.

OUR ENEMY THE RAT

Part II

How do you think we can get rid of rats? There are four ways. First, we can see that they do not find places to build nests or to hide from their enemies. Second, we can try to prevent them from getting any food to eat. Third, we can see that rats are killed wherever they are found. Fourth, we can protect the enemies of the rats.

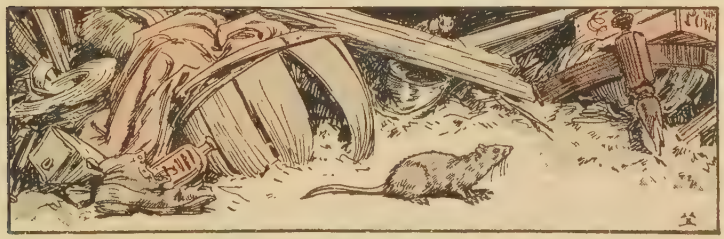
HOW CAN WE PREVENT RATS FROM HAVING A PLACE TO BUILD THEIR NESTS?

The best way to get rid of rats is to build houses, barns, stores, and other buildings in such a way that the rats cannot get into them. If rats cannot find places to build their nests, they cannot raise young rats. If they cannot get into

houses and other buildings, they cannot get much food. If they do not have places in which to hide, their enemies will kill them.

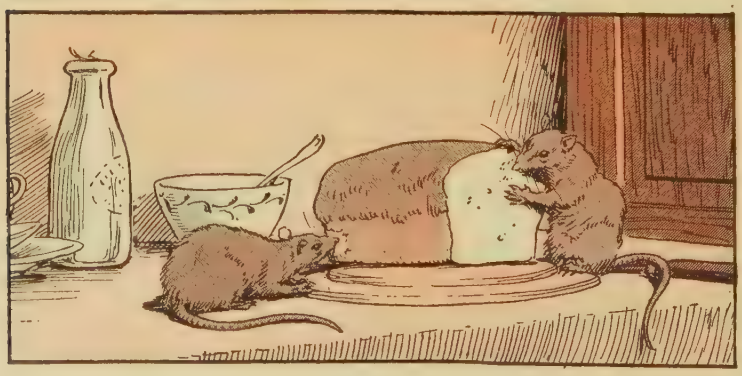
It is very difficult to keep rats out of buildings. Most barns, cribs, and houses have not been made rat-proof. Rats can get into them easily. Even when buildings have been made rat-proof, rats sometimes get in because a door has been left open.

Many rats find homes out of doors under rubbish heaps and old piles of lumber. All rubbish heaps should be cleaned up. Lumber should be piled so that rats cannot hide under it.



HOW CAN WE KEEP RATS FROM GETTING FOOD?

You have just learned that rat-proof buildings will keep rats from getting food. If buildings are not rat-proof, all food in the building should be kept away from rats. Bread may be kept in tin boxes. Meat should be put in the ice box. The garbage can should be made of metal and kept covered tightly with a metal lid. Scraps of food should not be left in the yard or on the street. Rats will not stay where they cannot get food.



CAN YOU COMPLETE THESE SENTENCES?

1. We can get rid of rats by keeping them from having a place to _____ their _____.

2. We should try to keep rats from getting _____ to eat.

3. We should build our _____ so that rats cannot get into them.

4. Rats should be _____ wherever they are found.

5. We should protect the _____ of rats.

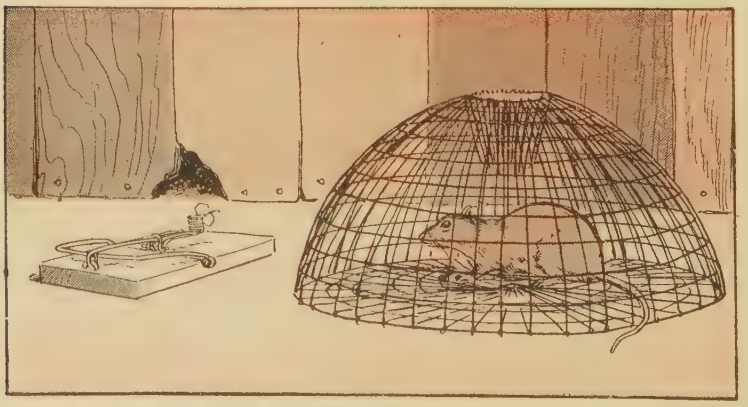
6. We should clean up _____ _____ so that rats cannot find homes out of doors.

7. The _____ _____ should be kept covered with a metal lid.

HOW CAN RATS BE KILLED?

Do you know how to kill rats? One way is to trap them. In the picture you will see two kinds of traps that are often used. The trap at the left is called a guillotine trap, and the one at the right is a wire trap.

Rats are so sly that it is a good plan to leave the trap unset for a night or two where the rat can see it. When the trap is set and baited, it may be put under a chair which is covered with a



cloth, or it may be put far back in an overturned box or barrel.

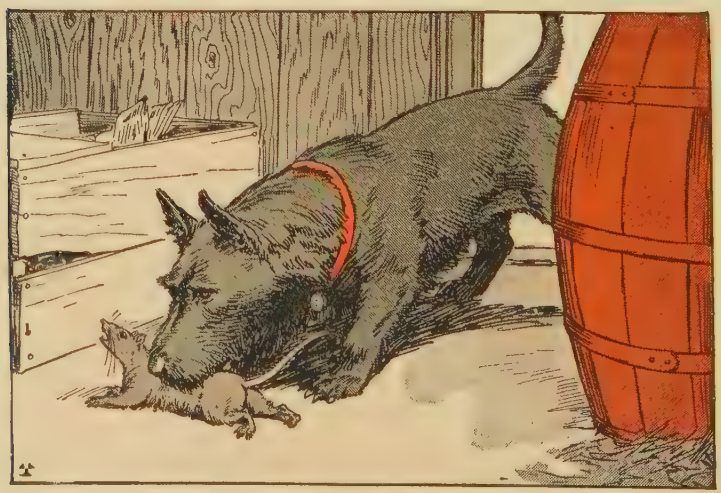
Another way to kill rats is by poisoning them. This is a very dangerous way. Poison should not be used where children, dogs, or cats can get it. A poison that will kill a rat may be strong enough to kill a child.

Rats have large families, and have many families each year. For this reason they should be killed before they can raise their families. A father and mother rat are called a pair of rats. One pair of rats can have from six to ten families of rats a year. In each family there are usually ten or more little rats. Just think how many little rats one pair of rats may have in one year!

WHAT ARE THE RAT ENEMIES WHICH WE SHOULD PROTECT?

Certain birds and animals help us in getting rid of rats. Most cats are poor rat-catchers. If a cat is very hungry, it may kill a rat, but most cats are too well fed and too lazy to try to kill an animal that fights as well as a rat does.

Dogs are better rat-catchers than cats. The small terriers are the best dogs for that purpose.



Many hawks and owls kill rats. All the larger hawks and owls kill rats. Even the little screech owl will kill a young rat. The large hawks that sometimes kill chickens kill more than enough rats to pay for the chickens they eat.

The best rat-catcher among the birds is the barn owl. He likes to hunt rats. Rats go in search of food after dark. This is just the time the barn owl is looking for his supper. One man who has studied barn owls says that each of these owls is worth at least twenty-five dollars a year to the farmer because of the rats the owl kills.

Now that you have read this lesson, can you tell why the rat is an enemy of man?

CAN YOU FIND THESE?

Read all the sentences that tell how to set a trap for a sly rat.

Read a sentence that tells why rat poison is dangerous.

Read a sentence that tells why we should kill rats as soon as we find them.

Read a sentence that tells why the cat is not a good rat-catcher.

Read a sentence that tells the name of the best dog rat-catcher.

Read a sentence that mentions two kinds of birds which kill rats.

Read a sentence that tells about the value of large hawks as rat-catchers.

Read a sentence that tells the name of the best bird rat-catcher.

Read and answer the last question.

CAN YOU ADD TO THESE LISTS?

In each list below, all the words are of the same kind. See if you can add one word to each list.

1. green, blue, purple, yellow
2. cherry, plum, pear, orange
3. farmer, baker, doctor, preacher
4. robin, crow, bluebird, wren
5. Oakland, Dodge, Nash, Franklin
6. lily, violet, tulip, pansy
7. lettuce, radish, turnip, carrot
8. chisel, hammer, file, screwdriver
9. elm, maple, pine, willow
10. mittens, hat, shirt, dress
11. cow, dog, horse, cat
12. roof, walls, rooms, doors

Number a paper from 1 to 12. Beside each number write the word which you added to that list.

THE GREAT TRANSATLANTIC FLIGHT

Do you know how far it is across the Atlantic Ocean? One of our great ocean liners can make the trip from New York to a port in France in about five days. Then it is a ride of several hours by train from the seaport to Paris. Altogether, the trip from New York to Paris by the fastest steamship and train takes five and a half

days, or one hundred and thirty-two hours. Should you be surprised to know that not long ago someone made that trip of about 3600 miles in less than thirty-four hours? Of course the trip was not made by land and water, but in the air. Do you know who made this remarkable flight?

About ten years ago a man by the name of Orteig became much interested in airplanes and in flying. In order to encourage aviators to make greater efforts, he offered a prize of twenty-five thousand dollars to the first person who should fly from New York to Paris without stopping. A twenty-five-year-old American, named Charles Lindbergh, won that prize. Today almost every boy and girl in America knows about this wonderful trip and about the courage and character of the young man who made it.

Lindbergh did not attempt to make this

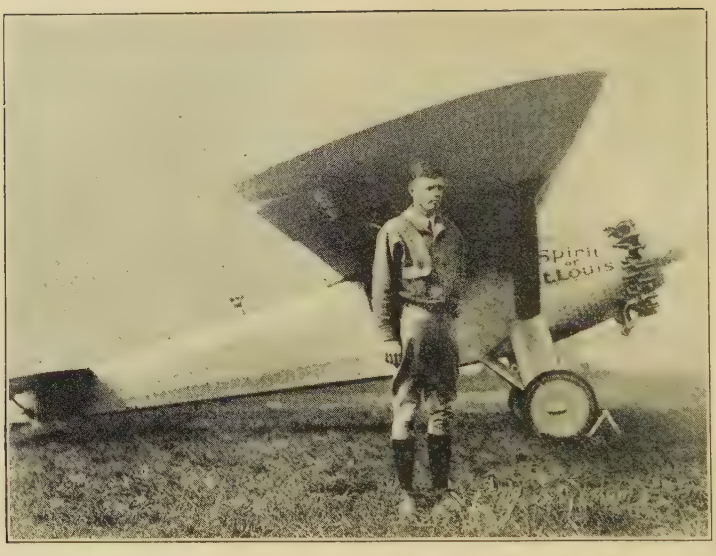
dangerous trip until he had made careful preparations. He studied about planes and flew them for several years before he tried to cross the Atlantic Ocean. When he was a young man he became interested in aviation and left the university he was attending to go to a school where he learned how to fly a plane. Later he bought a plane of his own and received some valuable experience in flying over different parts of the United States.

Lindbergh was not willing to know just a little about flying. He wanted to become one of the best of aviators and to learn to handle large and powerful planes. So he entered an Army Air Service Training School in Texas and became one of the Flying Cadets. For a year he studied very hard at this school. He learned how to take off and land different kinds of planes, and how to fly well alone.

When his training at the army flying field was finished, Lindbergh became a pilot on a United States air-mail route between Chicago and St. Louis. Twice he had to make parachute jumps when something went wrong with his plane.

While flying with the mail one night, Lindbergh began to think of the possibility of a flight across the Atlantic. He talked with some men in St. Louis about it. They were willing to provide the money for the trip. He then decided just what kind of plane would be best, how many motors it should have, and many other important matters about the trip. At last a company in San Diego was asked to build his plane. He called it the *Spirit of St. Louis.*

When the plane was finished and thoroughly tested, Lindbergh flew in it to St. Louis, and then to New York.



Before he was finally ready to start, Lindbergh very carefully studied maps of all the places over which he was to pass. He found out all that he could about weather conditions. He tried in every possible way to make his flight successful.

One of the important things which he had to decide was what to take along with him. Of course it takes a great deal of fuel to carry a plane on such a long

trip, and if a plane is to stay up in the air and travel with any speed it cannot be heavily loaded. Lindbergh took with him only flashlights, flares (which are lights which the pilot may drop to the ground), string, a knife, matches, a needle, an air raft, air cushions, a parachute, a saw blade, and food and water. He took the air raft so that he should be able to float on the ocean if he had to come down in his plane before he reached land.

About eight o'clock one morning in May, 1927, Lindbergh took off from Roosevelt Field in New York. First he went north along the Canadian coast to Newfoundland. After he left the shore he saw many icebergs, and by night he ran into fog. At first he could see the icebergs through the fog. Soon, however, the fog grew so thick that he had to rise until he was flying nearly two miles high.

There was no moon, and it was very dark. Once he started to fly through a cloud, but sleet began to collect on the plane. He knew that this was dangerous, because a plane cannot fly after the sleet freezes on the wings and wires, so he flew back to get out of the cloud. After that he flew around or over the heavy clouds. He had been flying in the dark for two hours when the moon came out.

In the morning the fog was nearly gone, and he could fly low over the water. He saw a few birds, but no ships.

The first sign of land was a small fishing boat. Lindbergh flew his plane within a few feet of this boat and shouted to the fisherman, asking him to point to land. The fisherman did not answer. Possibly he could not understand English, or perhaps he was too surprised to do as he was asked.

Later in the day the flier saw a rough shore line which he knew from his maps to be the coast of Ireland. Over the English Channel he flew to France. The lights along the London-Paris air route helped him to find his way.

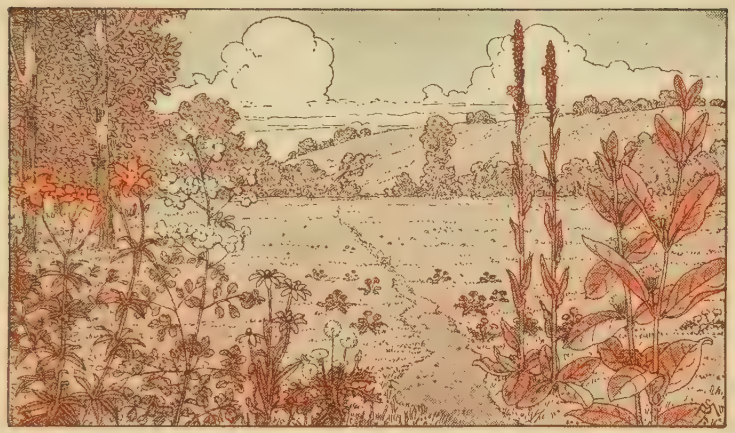
Lindbergh reached Paris about ten o'clock at night. He circled about to be sure that he had found the right landing field. As he came down closer to the lights he saw that the roads were crowded with cars. He flew low over the field, circled about a moment, and then landed.

Crowds of people were waiting to greet him. During his stay in France, and later during his visit to Belgium and England, people gathered to see him, and banquets, parades, and other celebrations were given in his honor. Everyone was proud to see and know the young American who had performed so brave a deed.

RIGHT OR WRONG?

How many of the following things have you seen anyone do? Which of the things do you think are right? Which do you think are wrong?

1. Throw gum wrappers on the street
2. Laugh at someone who had fallen down
3. Say "I beg your pardon" upon running into someone
4. Interrupt when others are talking
5. Pick up an orange peel that someone had thrown on the sidewalk
6. Do an errand for one's mother without complaining about it
7. Talk noisily in a library
8. Help a little child across a muddy crossing
9. Praise another child for good work
10. Lift his hat when meeting a woman



SCATTERING SEEDS

A man once said that even if we ourselves never planted a seed, we should still have plants growing all about us. Do you think he was right? Read this lesson to find out.

If you want flowers to grow around your porch, you plant flower seeds. If you want a vegetable garden, you plant vegetable seeds. Sometimes you set out plants that have been started from seeds.

Have you ever wondered how wild

flowers become planted? As you drive along a country road you see weeds and flowers and bushes of every sort. Does anyone plant them?

Under the maple trees are tiny new maples pushing their leaves out of the ground. How did they come there? Every year the dandelions spring up all over our lawns. Surely no one plants them.

Should you be surprised to know that all seeds can plant themselves? Of course they have some help. What helps them?

The wind helps

The seeds of some plants are able to float in the air. These seeds are fastened to feathery tufts which look like cotton or silk. The wind can easily carry the feathery seeds a long distance. The dandelion has feathery seeds. Do you know of any other plants which have this kind of seed?

Some of the flying seeds have thin flat wings. You may find this kind of seed under the maple or elm tree. The wind catches these winged seeds and carries them away from the mother plant. They do not go far from the mother plant. If you will look around when you go out of doors you will see these flying seeds everywhere.

Some seeds, like those of the mustard plant, are so small and light that they

do not need wings. The wind blows them about like tiny grains of dust.

Sometimes a whole plant is carried by the wind. Did you ever hear of tumbleweeds? They are plants that are common on the prairies and plains. These plants break off at the roots and are tumbled along the ground by the wind, scattering their seeds as they go. The Russian thistle is a kind of tumbleweed.

CAN YOU MAKE THESE PICTURES?

This lesson tells you four ways in which seeds are scattered by the wind. Fold a sheet of paper into four equal parts. In each part draw a picture of one way in which seeds are scattered by the wind.

Let the other children give a name for each picture you have drawn.

Tell how the wind carries each of these seeds:

The dandelion seeds
The mustard seeds
The maple seeds

The water helps

Often seeds fall into streams and are carried to a new place. After a rain, the water in the gutter helps to carry seeds away from the mother plant. Light

seeds are often carried a long distance by water. A man who has studied a great deal about seeds has found that some seeds are carried hundreds of miles by the ocean currents. The heavier seeds do not travel very far.

The animals help

However, wind and water are not the only means of scattering seeds. Many furry and hairy animals carry seeds on their coats. Have you ever seen burs stuck in the hair of a dog or upon the tails of cows and horses? Burs become tangled also in the fleece of sheep. Each of these burs is full of seed pods.

People help

People sometimes help to scatter seeds. You may have come in from a walk and found tiny sticktights on your clothes. These sticktights with the sharp hooks

that catch in your clothes are really pods which hold seeds.

If you have ever walked in the sand near the water, you have felt the prickly sand burs. These are often carried a long way on people's clothes.

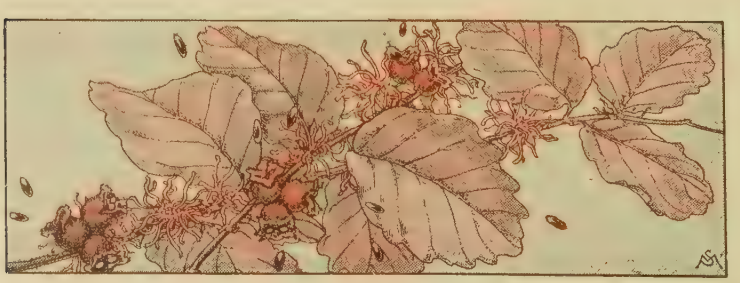
The birds help

The birds, too, help in scattering seeds. Sometimes tiny clods of soil stick to the feet of the birds. This soil may have seeds in it. When the birds fly, the seeds are carried far away, to be planted in another place.

After birds eat berries and other fruit, they often drop the seeds far from the tree or the bush where they found the fruit.

The plants help

Perhaps the strangest thing of all is the way in which plants themselves help to scatter their seeds. Some seed pods, when they are ripe, pop open and shoot their seeds in every direction. In the picture at the bottom of this page, the witch-hazel pod has popped open and is shooting its seeds. Have you ever seen peas or beans do this? The touch-me-not also has shooting seeds.



A few plants have something sticky, almost like a glue, on their seeds or seed pods. This gives the seeds a chance to be carried away by people or by animals that rub against the plants. The plant in the picture has sticky seeds. It also shoots its seeds.

Now that you have learned of so many ways in which seeds are scattered, do you wonder that we have plants growing everywhere?

CAN YOU MAKE UP QUESTIONS?

Can you make up some good questions on this lesson? Try to think of some hard questions for the other children to answer. Be sure that you can answer your own questions before you ask any other child to answer them.

Ask one question about how animals help to scatter seeds.

Ask one question about how people help to scatter seeds.

Ask one question about how birds help to scatter seeds.

Ask two questions about how the plant helps to scatter its own seeds.

USING AN OUTLINE

On the next page is an outline of the lesson on "Scattering Seeds." Read the outline.

There are seven main topics in this outline. Read them.

How many points are there under topic I? Read them. How many points are there under topic II? How many points are there under topic VI? How many points are there under topic VII?

Try to find the sentences in the story which tell about each part in the outline.

SCATTERING SEEDS

I. How we know that seeds plant themselves
   A. Plants along the roads
   B. New maples under the trees
   C. Dandelions on the lawns
II. How the wind helps to scatter seeds
   A. By carrying seeds with plumes
   B. By carrying seeds with flat wings

C. By blowing tiny, light seeds

D. By blowing the whole plant

III. How water helps to scatter seeds

IV. How furry animals help to scatter seeds

V. How people help to scatter seeds

VI. How birds help to scatter seeds

A. By clods of soil on their feet

B. By dropping seeds of fruit which they have eaten

VII. How the plants help to scatter seeds

A. By shooting their seeds

B. By a sticky covering on their seeds

robin	banana	potato	pig
cheese	elephant	corn	eel
almond	dandelion	elm	fly

Fill in the blanks in the sentences below. Use words from the list at the top of this page.

1. A _____ is a kind of insect.
2. A _____ is a kind of vegetable.
3. A _____ is a kind of fruit.
4. An _____ is a kind of nut.
5. An _____ is a kind of fish.
6. A _____ is a kind of bird.
7. _____ is a kind of grain.
8. _____ is a dairy product.
9. An _____ is a kind of wild animal.
10. A _____ is a kind of weed.
11. A _____ is a domestic animal.
12. An _____ is a kind of tree.

IS THE ANSWER GIVEN?

Below are ten questions which people often ask about the schools of long ago. Read the questions. Have you ever heard anyone ask any of these questions?

Seven of these questions are answered in the lesson "Early Colonial Schools," beginning on page 270. Three of the questions are not answered in that lesson.

Read the story through. Then turn back to these questions and tell which questions are answered. Tell which questions are not answered.

THE QUESTIONS

1. Were the desks in the early schools like our desks to-day?

2. Were the early school buildings heated by a furnace?

3. Did the children in early days have to walk a long way to school?

4. Were there any pictures in the schoolbooks in the early days?

5. What kind of lessons did the early schoolbooks have?

6. Did the children study drawing in the early schools?

7. Were the children taught the alphabet in the schools of long ago?

8. Were there libraries in the colonial schools?

9. Did the very small children go to school in colonial times?

10. Were the children ever punished in school in colonial times?

EARLY COLONIAL SCHOOLS

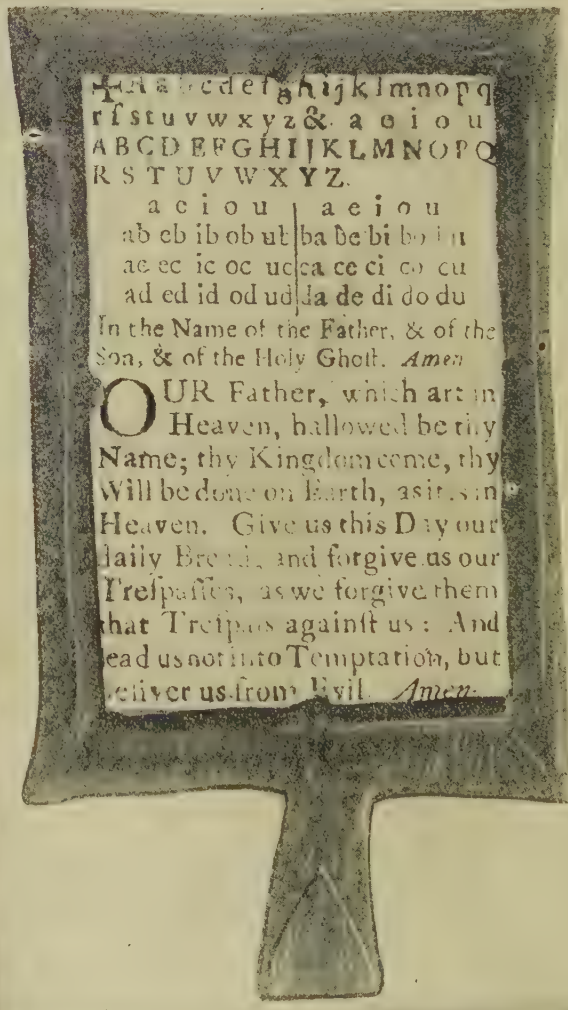
Almost every boy and girl who goes to school to-day has a desk of his own and many different kinds of books. Long ago when the colonial children went to school they had only a few books to use. They did not go to school in a fine big schoolhouse.

They did not have seats and desks like yours. They sat on stools or on

benches. There were no backs to these seats. How tired the little children would get! They had to sit very still and straight. If they did not attend strictly to their lessons, they might receive a sharp rap on the head or a box on the ear.

You would think it very strange if you had to furnish wood to be burned at school. That is what many colonial children had to do. They had to carry an armful of wood to school so that they might be kept warm. The children who did not bring any wood had to sit farthest from the fireplace.

One book from which the colonial children learned to read was called a Hornbook. This was really not a book. It was a lesson leaf fastened to a thin block of wood. In order that the lesson leaf might not get lost or torn, it was



a b c d e f g h i j k l m n o p q
r s t u v w x y z & a e i o u
A B C D E F G H I J K L M N O P Q
R S T U V W X Y Z.

a e i o u	a e i o u
ab eb ib ob ub	ba be bi bo bu
ac ec ic oc uc	ca ce ci co cu
ad ed id od ud	da de di do du

In the Name of the Father, & of the Son, & of the Holy Ghost. *Amen*

OUR Father, which art in Heaven, hallowed be thy Name; thy Kingdom come, thy Will be done on Earth, as it is in Heaven. Give us this Day our daily Bread, and forgive us our Trespasses, as we forgive them that Trespass against us: And lead us not into Temptation, but deliver us from Evil. *Amen.*

covered with a thin sheet of horn. Do you see the handle by which the child could hold his book?

Another book that these children used was "The New England Primer." It was a tiny book about two inches wide and three inches long. A book this size would be smaller than a postal card.

The lessons in "The New England Primer" began with the letters of the alphabet. These were followed by syllables to be sounded, such as *ab, eb, ib, ob, ub*. After these came lists of short words followed by longer words. These words were divided into syllables so that the children could pronounce them. The first part of "The New England Primer" was much like the Hornbook, which you can see on page 272.

Following this first part were twenty-four little rimes with a picture for each

rime. Here are some of the rimes from "The New England Primer." Can you read them?

In Adam's Fall
We ſinned all.

Thy Life to mend,
This Book attend.

The Cat doth play,
And after ſlay.

A Dog will bite
A Thief at Night.

An Eagle's flight
Is out of ſight.

The idle Fool
Is whipt at School

In this little primer were also the Ten Commandments and the Lord's Prayer, as well as other religious teachings. It was not long before some of the colonial children knew this primer by heart.

The little children sometimes went to school in the kitchen of a woman's house. The school was taught by a woman. It was called a Dame School. Some of the children who went to these schools were only two or three years old. Here they learned to read. They began by learning the alphabet.

One dame had a way of teaching the alphabet that almost any child would like. She made gingerbread letters, and when a child had learned a letter in print, he could eat the gingerbread letter.

When the children were older, they left the Dame School and went to a schoolmaster. At first only the boys were allowed to go to the schoolmaster. They had to work very hard. When they did not get their lessons, they were whipped.

They had to learn a language called Latin. It was not easy to learn. Because

Latin was taught in these schools, they were called Latin-Grammar Schools.

Should you have liked to go to school in colonial times?

SOMETHING TO DO

Turn back to page 268 and read the questions again.

Write the numbers of the questions which were answered in the story.

In another place write the numbers of the questions which were not answered in the story.

It is very important that you should remember certain things in this book.

Choose ten lessons in this book which you think are most important for you to remember.

Tell why you think each lesson is important.

Which of these ten lessons do you remember best?

You do not remember a lesson well if you only read it once. You must do something else with it. What should you do to help yourself remember a lesson?

Here are some things which you can do to help yourself remember a lesson.

Read it several times.

Outline it.

Choose the main points in it.

Tell the lesson to someone.

Bring to school something which was told about in the lesson.

Act out part of the lesson.

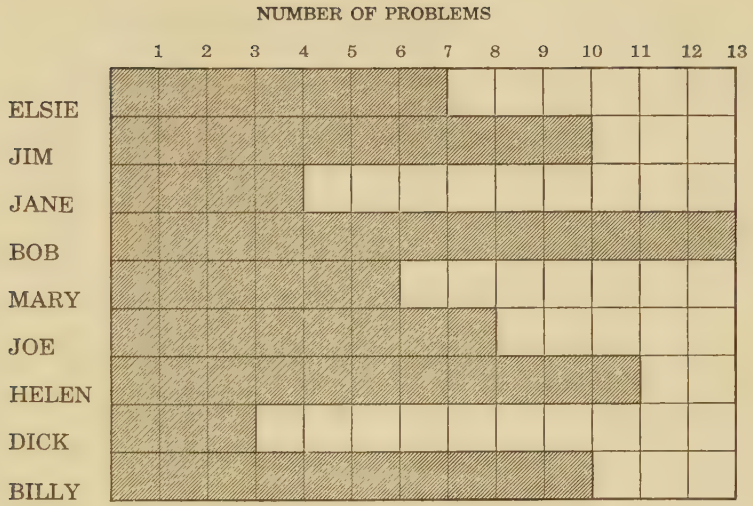
Close your eyes and try to remember parts of the lesson.

How many of these things have you done to help you remember lessons?

Which lesson in this whole book do you remember best? Why do you remember that lesson so well?

Turn back to that lesson and read it again. Had you forgotten any of it?

You will always forget parts of a lesson unless you read the lesson again after a while.



CAN YOU READ A GRAPH?

The drawing at the top of this page is called a graph. It was made by some children to show the number of arithmetic problems which they worked correctly in one lesson.

The numbers across the top of the graph show how many problems there were in the lesson. How many problems were there?

Along the left side of the graph are the names of the children who worked the problems. Read the names of the children. How many children were there?

The shaded bars show how many problems each child worked correctly. Elsie did seven problems correctly. How many problems did Jim work correctly?

Who did the fewest problems correctly? How many did Dick work correctly?

How many problems did Joe work correctly? Who had more problems right than Joe had? Who had fewer problems right than Joe had?

Perhaps the boys and girls in your class can make a graph like this. They might also make a graph to show the number of spelling-words each child spelled correctly in one lesson.

What other things might be shown by means of a graph?

CAN YOU TELL WHICH IS RIGHT?

The sentences below tell what different children did when they were in public places. Read the sentences and decide which children did the right thing and which children did the wrong thing.

1. A boy who was writing a postal card at the post office shook ink from his pen to the floor.

2. Some children bought some gum. They threw the gum wrappers into a rubbish can which was on a street corner.

3. Two boys wrote their names on the schoolhouse wall.

4. A little girl carefully scraped her shoes on the mat before she entered the public library.

5. Some children picked up papers that were scattered over the school yard.

6. A boy who was eating an orange put the peeling into a rubbish can.

7. Some children who were playing in the school yard one evening broke off the top of a little tree. They wanted it for a whip.

8. A girl who was writing at the board stepped on some chalk and did not pick it up.

9. Some boys tampered with a public hydrant.

10. Several children went to a picnic at the park. When they had finished eating, they picked up all the paper and scraps of food and put them into the rubbish can. They poured water on their camp fire to put it out.

11. Two children cut their initials in their desks.

12. Several children brought plants to make their schoolroom more attractive.

13. A boy at school said: "I don't care if I do scratch my desk. I don't have to buy the desks."

14. Some children picked up some glass which was on the sidewalk. They put the glass into a rubbish can.

SOMETHING TO DO

Take a sheet of paper. On the right side of the paper, at the top, write the word *right*. On the left side of the paper, at the top, write the word *wrong*. Under *right* put the numbers of the sentences which tell what the children did that was right. Under *wrong* write the numbers of the sentences which tell what the children did that was wrong.

USING THE TABLE OF CONTENTS

Turn to the Table of Contents in the front of this book. See how quickly you can find these lessons. Give the name of the lesson and the page on which it begins.

A lesson on health

A lesson about pieces of money

A lesson about an insect which harms our trees

A lesson about public buildings

Lessons about enemies of the farmer

A lesson which tells about a trip across the Atlantic Ocean.

Lessons that tell how to make something

A lesson which tells you how to use the index

A lesson which tells you how to make an introduction

A lesson about accidents

A lesson about the biggest land animal

A lesson about a dangerous plant

A lesson about the clock

A lesson about saving money

A lesson which teaches you how to tell the temperature

A lesson which tells about our holidays and special days

A lesson which tells about the kinds of work that people do

A lesson which tells about schools of long ago

A lesson which tells about different kinds of news

A lesson which tells how seeds are planted

A lesson which tells in what ways the birds are our friends

A lesson on riddles

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